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# Galaxy

FRED SABERHAGEN
*Love Conquers All*

Frederik Pohl: SF EAST

J. A. LAWRENCE • David DRAKE
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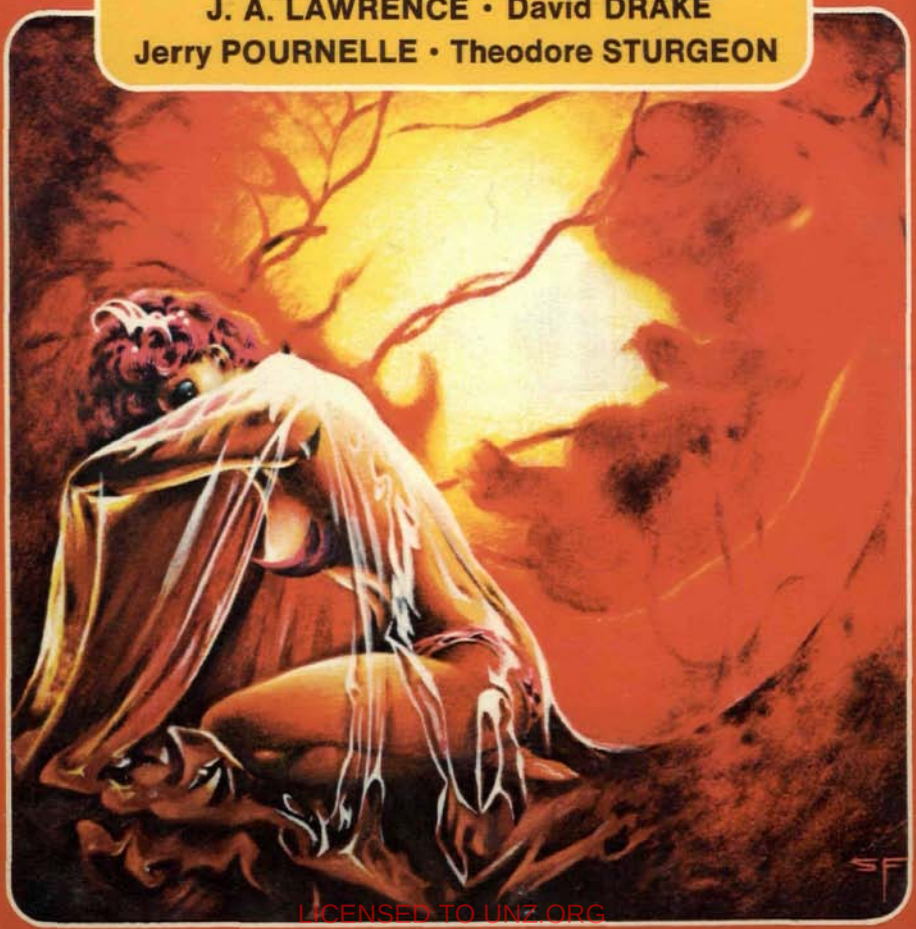

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# Galaxy
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# LOVE CONQUERS ALL

## FRED SABERHAGEN

*"And then, as the French book saith, the queen and Launcelot were together. And whether they were abed or at other manner of disports, me list not hereof make no mention, for love at that time was not as is nowadays . . ."*

*—Sir Thomas Malory, Le Morte D'Arthur*

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## I

ARTHUR Rodney walked through his little California house, calling his wife's name, but only music answered him. The hidden sensors of the hifi system marked Art's passage from room to room and as he passed the system changed the music for him, blending each piece more or less smoothly into the next. When he entered the children's room, where the two beds and a scattering of toys reposed in a somehow ominous stillness, there came from the speakers a cacophony of metallic sounds that bore an intended resemblance to a baby's cry. Little Timmy and Paula had wanted that teenage stuff for their room, and he and Rita had agreed, though the kids were really far too young, but never mind that now, no one was there. The discordant metallic baby cries cut off when Art went out.

In the master bedroom he was fed the music of pulse-beating drums, fit for a wild and wiggling dance that must find its appropriate end upon the bed. No one here, either. The glass in his wide windows (looking out over his neighbors' desert landscaping, complete with plastic iguana) had darkened itself almost to opacity against the force of the California sun, but the sun was getting into the bedroom anyway, reflecting blue and green through the depths of the inside-outside swimming pool. By this water-mottled light that quivered in all of the bedroom's many mirrors Art saw that a small piece of white paper had been propped against the massage unit on his bedside table. He tossed his box of handcarved Staunton chessmen rattling onto the large circular bed, set his digital tournament clock down gently, and picked up the note, which was in Rita's handwriting.

> Darling, please believe that I love you as much as ever, but I must go away for a time. The kids are with me and will be okay. I really am pregnant again and Dr. Kuang says he has had to report my pregnancy to Family Planning. It's the law, as he says, and I guess I can't expect him not to report it. I will call you or at least write you soon so try not to worry. Love, Rita

As he read, Art's knees went weak with fear confirmed, and he sank down on the edge of the round bed. He glanced up at the overhead mirror, but learned nothing from the sight of his own slightly pudgy, dark-bearded face, pale and enigmatic in its shock. He looked down again and re-read the note three times and dropped it on the bed beside him.

Putting his weight on the bed had quickened the heartbeat of the hifi drums, though if he sat still the system would soon switch to soothing, lulling music and in a little



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while he would be granted silence. He could get up and turn the thing off but he felt too numb. Where to look for escape, for guidance? Where else but on the short bookshelf built into the wall beside his bed? The words of Eros are those of the true heart. Shortly he reached over and pulled out a well-fingered gray volume with *Philosophy of Pleasure* lettered on the cover in a beautiful and lively pink. But then he sat there holding the book unopened.

It was obvious that Rita had run off to her sister-in-law in Chicago. She would not have taken the children to leave them with anyone else. Rita meant to go into hiding somewhere and bear an unwanted child, even if she had to put it up for secret adoption later. Just the kind of thing that sister-in-law Ann would encourage her to do; quite likely it was Ann who had suggested the scheme to her in the first place . . . thought faded out into pain and shock. His wife was gone.

How far pregnant was she? It couldn't be more than ten weeks or so, he thought. He tried to remember when she had last gone off the pills for a menstrual week, but he had trouble keeping the dates in his mind, because his mind wanted to forget it.

So it would have to be about six months before she bore the child, assuming she could remain in hiding and get away with it. If instead, as seemed more likely, the FP caught up with her and gave her her abortion anyway, she would probably go to jail. So it was in the cases one read about. In any case she was going to be gone for months. As well as being the mother of his children she was Art's favorite sex partner, too. He opened the book and began to make plans for the changes in his sex life that would be brought about by Rita's prolonged absence. After half a minute he realized what he was doing, threw the book aside, and went back to re-reading the note, hoping without real hope to find some less terrible interpretation of its words. But there was none.

PULLING the phoneplate toward him on the bedside table, Art started to punch out the number of Ann and George Parr in Chicago. They had recently moved into a new house there—business at George's karate school was evidently good—and the new number was still fresh in Art's mind. He had looked it up for Rita last weekend. But when he was halfway through punching, he hesitated and then hit the blankoff key. Rita had been gone only a few hours at the most, and probably had not yet reached Chicago. Talking to George was not likely to do any good since Ann would be the one most actively helping Rita—and arguing with Ann about anything was, in Art's experience, cer-



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tain to be futile. Anyway it was not the kind of thing Art wanted to talk about over the phone. Best not to call at all but to go straight after Rita and for her own good compel her to behave sensibly. And the sooner he caught up with her the better.

He reached for the phoneplate again, and this time tapped out the number of the Chess Director's Office, in the mid-California branch of the Bureau of Arts and Games. There was a wait, with evanescent rainbow static on the plate. Then a man's florid face appeared.

"Oh, hi, Art," the face said. "What's up?"

"Listen, Nick, I just called to say you'd better not pair me in for the first round of the Quarterly. I'm taking a little trip and I don't know if I'll be back in time."

"Oh, okay. Let me know about the August Monthly, hey?"

"Certainly I will. Go'th Eros."

"Goodbye."

For a moment Art continued to stare at the blank phone. In spite of his larger worries he found himself irritated by the Chess Director's offhand manner. Bureau of Arts people were supposed to believe in the importance of what they were doing; they should show at least a little formal regret when a rated master withdrew from an event. Nick had seemed as indifferent as a factory foreman checking attendance.

The thought of factories reminded Art that in courtesy he should call his own place of employment before he left, but the chime of an incoming call forestalled him.

On the plate appeared the face of a young woman, full-featured and of flawless skin. "May I speak to Ms. Rita Rodney, please? I'm Ms. Lazenby of the Bureau of Family Planning."

An unpleasant contraction in the stomach. "This is her husband. Ah, Rita's not in the house right now. Ah, she's out shopping somewhere, I expect."

Ms. Lazenby smiled, a friendly smile that could become sympathetic if the need arose. "Actually, the reason for my call concerns you too, Mr. Rodney, and your two children." She paused just enough for Art to have gotten a question in if he had felt the need. "Will you ask Rita to call me back as soon as possible if she returns home during business hours? We're open until five. Or otherwise to call me in the morning at her earliest convenience?"

"I will, yes, I'll tell her that."

"Thank you," Ms. Lazenby blanked off.

Art sat clutching the phone. Dr. Kuang had smelled trouble coming, had called in Family Planning right away, reporting Rita as a problem case. Call back tomorrow, Ms. Lazenby, and you'll probably get no answer, and you'll be very suspicious that something's up. But



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call back two or three days from now and you'll have a willing Rita here to talk to you, I promise you that. Or maybe you'll never have to call again, maybe by then the Certificate of Abortion will already have been fed into your FP computer banks.

What next? Oh yes, his job. Art punched out the number of the Macrotron Electronics plant in San Bernardino, and then the personal extension number of Pete Kinelo, his boss in the test-equipment maintenance and engineering department.

The plate showed the Macrotron trademark, and then the taped image of a girl who was nude or nearly so, it being impossible to tell at the moment because she was partly concealed behind a receptionist's desk. A small vase of roses stood before each breast, so that her nipples were just concealed. "One moment, please," the girl said, smiling pleasantly. "Your party has not yet answered his or her personal phone. We are continuing to page your party; thank you for waiting."

The music of *Swan Lake* began. The girl affixed an electrostatically clinging sequin to each of her nipples, coyly displayed a G-string and wriggled into it, and then writhed up from behind her desk in an erotic dance. In a moment she was dancing along the shore of a lily-pond, and then in and out of the curtain of a small waterfall.

Art waited impatiently, looking at his watch. There were several other calls that he should make. One was the bank, to see how much cash was readily available, in other words how much Rita had taken; fortunately he had come home today with the check for first prize in the Weekly in his pocket and so should at least be able to buy a ticket to Chicago. Another call would be to the Office of Transcontinental Transit, to see how soon he could get a seat on a tube train.

At last the dancing girl was replaced by the face of Pete Kinelo. "Art?"

"Hello, Pete. I can take next week off, too."

"Oh, good." Pete beamed through his thick glasses. "Then I can bring another substitute engineer in for a week. That'll put us in real good shape on employee utilization. Say, there's nothing wrong, is there?"

"No, no. Ah, I've been winning quite a few prizes and I've got my nerve up. I'm going to try some of the big tournaments coming up around Chicago."

"Great. Fine. Be sure and let me know if you're coming back week after next."

THE transcontinental train, a string of sealed metal cylinders almost windowless and almost silent in their movement, hurtled eastward through its buried tube at a steady supersonic speed. On



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three-dimensional stages at the front of each car, feature-length tridi programs were being shown, a hangover from the days before competition with the airlines had been virtually ended by the latter's susceptibility to hijacking, accidents, and weather. In Art's car the life-sized, solid-looking, almost-real-looking images were enacting a play set in Victorian England, the locale of a lot of fiction these days.

The story had something to do with the romantic pursuit of a prim London nursemaid by a young leftenant (in the play they pronounced it that way) freshly returned from India. Obsessed as Art was with his own real problems, still the trashiness of the play aroused in him an automatic disgust. There was no apparent limit to what they could get away with showing these days. Every second or third shot, or so it seemed, was a long lingering closeup of the heroine, showing her swathed almost from chin to ankles in clothing that was not only loose-fitting but practically opaque. Only just enough of her shape and skin showed through to keep the Bureau of Arts censors from clamping down. Doubtless the producer would argue that in real Victorian England *nothing* had showed through, but, thank Eros, that was evidently not yet accepted as a valid argument by the censors and the courts. Ann, when he met her in Chicago, would probably be wearing something like this heroine's clothes. Rita wouldn't, though. She had better not.

What would be the very best first words for him to say when he caught up with her? What kind of look should he put on his face? He thought a moment and then decided there was no use trying to plan in such detail. Details would have to depend on the circumstances of the moment, on what her own attitude seemed to be. Of course he would have to be absolutely inflexible about terminating the pregnancy. No room for argument there. Rita could be stubborn, as he well knew, but this time he would be more stubborn. Maybe if he had taken a firm stand earlier, things would never have come to this pass . . . maybe. The trouble was that he could discern no single turning point; they had just drifted into it somehow.

Of course, pregnancies did happen. There was really no shame in getting pregnant, for the third or the thirteenth time, the only shame was in not doing something about it. Yes, pregnancies happened, all right. They certainly happened to Rita, ever since he had known her.

He had been teaching high school electronics when he met her; she was a student, though not in any of his classes, and eight years younger than he. They had been casual acquaintances until the Senior Prom for Rita's class, at which Art had happened to be one of the chaperones. At the Prom—it


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had been held aboard a tube-train basically like this one, only a local, chartered to keep running in a closed loop around mid-California for a couple of days—the graduates in keeping with tradition broke out of their own age-group sexually for the first time, and Rita had spent a good deal of the Prom in the bedroom car with Art. He had felt a little guilty later about being distracted so much from his chaperone's duties, for there was some stargazing trouble in the baggage car—well, that sort of thing had happened before, and would again.

A FEW WEEKS after the Prom, coming back from a vacation trip, he had accidentally—as he then thought—run into Rita while visiting the school for a one-day seminar. Later he was to realize with a warm glow that she had made a determined effort to locate and meet him on that day. In the course of casual conversation she mentioned to Art that she was pregnant.

"That's too bad," he commiserated mildly. In general he disliked hearing people talk about their ailments. "Do you suppose it happened at the Prom?"

"I think it must have happened there." Rita smiled at him, and brushed back her naturally blond, almost platinum hair, for which Art had declared his admiration a number of times, and which today seemed to have been newly curled. "Maybe it's a little present from you."

"I suppose it quite possibly is. The Prom was great fun, though, wasn't it? I hope your escort wasn't too put out with you for spending so much time with me."

Rita dismissed the problems of her Prom escort with a wave. "Great fun!" she agreed, but in the next moment smiled a little sadly. "Now it looks like I'm leaving my good old school days all behind."

Art was surprised. "Surely you're going on to junior college at least?"

"I had planned to, but a pregnancy sort of changes everything. At least for me it does."

"Why, won't you be over all that before the fall term starts? Are there complications?"

"I'm going to have the baby, Art." About halfway through the Prom her calling him Mr. Rodney had stopped forever.

"You're *what?* I'm sorry, it's none of my business, of course, but . . .

"Going to bear the baby." This calm determination was a side of her he had not seen before.

"But why?"

His shock dampened her enthusiasm, if that was the right word for her attitude, but not her determination. "That's what my parents keep asking. It's hard for me to explain to anyone. It's as if there were already a tiny baby inside me, depending on me. Though I can't



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even feel it moving yet, of course."

"Hormonal changes are proceeding early, I suppose," Art muttered, to be saying something. As he had already said, it was none of his business—unless, he realized with a shattering silent flash, unless he wanted it to be.

He had tried, as he thought, a lot of things in his life, but never marriage. Now it was getting to be time for marriage. And he liked this girl, liked her better each time he saw her.

He said: "I suppose your parents have pointed out to you that having a child already is bound to make things harder for you when the time comes when you want to get married. Not to mention the difficulty of raising it by yourself."

"I know, you're absolutely right." Her frown admitted that it was a problem. "I guess most men want to raise two kids that they think they might have fathered themselves."

And she, too, was right of course. It was a rare man who was certain of being the biological father of his wife's two children. It took the trouble and expense of genetic testing to make sure, and few were that concerned. You might as well accept the first two healthy ones that came and raise them as your own. If one of your neighbors' kids was especially strong or smart or handsome, why you might nurse a hope that you were the sire. Conversely, if your wife gave birth to a child that seemed a little inferior, even though acceptably free of defects and certified human, you might tell yourself that someone else had fathered it.

The really pertinent question was, would Rita Parr make him a good wife? From observing his married friends Art knew that you always wound up spending a lot of time with a marriage partner. It was also an important step to take because getting into and out of marriages all the time added up to a lot of trouble and expense—and you wanted the children, when they came, to have a stable home.

He said: "Rita, I wish I knew you better."

They started dating regularly. He got to know her parents, and her likable brother George. He considered the idea of marrying her from every angle, or tried to. On the few occasions when he saw his own parents he hinted at the prospect of coming marriage, and detected a mild glow of approval in response, which, of course, was as much as he could expect; it had been a long time since what he did was of deep concern to them, or vice versa.

He and Rita were together more or less constantly for several months. He became convinced that she wanted very much to marry him. They quarreled, and then made up. In the spring her Timmy was born and Art sent flowers to her at the hospital and a few days



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later came to pay her a visit at home.

Rita, sitting in a rocking chair in her bedroom and feeding the baby from a nursing bottle, said to Art: "You know, I still think he's yours. I have that feeling about him, and I'm glad."

Studying the small wizened face, still bruised from the violence of birth, Art could find in it no resemblance to himself. But he realized that he was hoping to find a resemblance and, giving this some solitary thought a little later, he decided it was enough to tip the balance. A month later he and Rita, now legally, financially, and socially united in the bonds of matrimony, moved into a new apartment with little Tim.

After marriage, as before, he and Rita preferred to spend most of their free time in each other's company. After marriage Art experienced only one or two orgasms per month with anyone except his wife. And while he wasn't sure, he had the impression that Rita's sex life was even more intensely concentrated on him. He should have made a point of finding out. Such concentration of lust was one of the danger signals that the popular psychologists were always harping on, a sign that one's sexual attitudes might be somehow warped.

They had been married, quite happily for the most part, for two years when Rita surprised him with the announcement that she was pregnant again. It was really a surprise because they had both been taking anti-fertility pills, which certainly should have given adequate protection. But, as Dr. Kuang explained, the pills were not one hundred per cent certain. Anyway the pregnancy was no real problem; they had caught it quite early and he could do a menstrual extraction right now in his office if they wished.

Oh, no. Although Rita, too, seemed surprised and not at all as calm as she had been about her first pregnancy, she was if anything even more determined that this one should produce a baby. To her the fetus was a person inside her belly, as if someone had taken a real baby and stuffed it in there. Her new baby was alive already, and she must protect its life. As far as Art could tell she had not absorbed this dogma from any of the few religious or "humanistic" sects which still maintained it as official doctrine. She had arrived at it by herself.

Naturally Art saw more of her during this pregnancy than he had during the previous one, and by now could more easily read her moods and guess her thoughts. What he saw this time began to frighten him. The first time he had thought she was simply being stubborn on the subject, acting in an immature, adolescent way. This time she seemed in the grip of some enormous force, a force bent on



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using her for making babies. Indeed, she refused even to discuss the possibility of getting an abortion. She even refused to take the tests that would predict whether her fetus was likely to grow into a deformed child; deformed or not, she said, it was her baby still. If Art persisted in trying to talk to her about it she quivered and suffered, seemingly outraged to the point of pain.

Well, Art had always more or less expected his wife to have two children. And people said it was more convenient if your two kids were about the same age. They could play together, and you got the diapering and the rest of the messy business over with once and for all. Since Rita was so determined to have this one, why not?

A couple of days after Paula was born Art called Dr. Kuang to talk over the best means of insuring against another pregnancy. Frowning from the phoneplate, Dr. Kuang told him that Rita's psychological profile showed that surgical sterilization was definitely not indicated in her case. He would prescribe new pills for her. "And of course having a vasectomy yourself will help. And, with male partners who are known to be strongly virile, she should choose sex activities other than copulation."

One trouble was that sex activities other than copulation were not much fun for her. One good thing was that she so rarely brought any man but Art to orgasm. He hastily got his vasectomy; in six months or so the residual sperm in his ductwork would presumably all have had their chance and he would be permanently and completely sterile.

He had done all he could, or so he thought. Meanwhile he had switched from teaching electronics to working at it, for Macrotron; also he had begun to spend more time away from home, improving his chess rating and winning more prizes. And then one day he came home and found a note.

## II

THE suggestive dialogue of the pseudo-Victorian play nagged at Art's attention, pulling him away from the fruitless game of trying to guess how he might better have managed his life with Rita in the past. He looked for the set of earplugs that should have been attached to his seat, intending to drown out the play with music or a soothing waterfall of gentle noise, but found to his disgust that one plug of the set was missing. Its connector of steel-jacketed wire had been neatly severed by some vandal, who seemed to have gone to the trouble of using a cutting torch.

He was not going to be able to avoid hearing the struggle of Phyllis and Rodney (the nursemaid and leftenant, respectively) against their mutual lust, a struggle in which he was sure they would even-


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tually be victorious, but at least nothing forced him to watch the repulsive sight. Art now kept his face turned most of the time to the small window beside his luxurious chair. In the buried tunnel there was of course nothing to be seen except advertisements, the kind that were now starting to be called flickersigns. These were glowing adjurations that might be a hundred kilometers long, lettered in elongated characters designed to be intelligible only to one hurtling past them at a distance of a few centimeters and a speed of hundreds of kilometers per hour.

Art was reading one such ad, without absorbing an iota of its meaning, when without warning the train was thrown into violent deceleration. It was braking at emergency rate from jet-aircraft speeds, seemingly coming to a halt. In an instant the great plastic flowers of airbags bloomed before each seat, their multiple release coming with the sound of a single explosion.

A second after they had bloomed, the bags were soft and deflating once again, sagging into plastic detumescence. "Phyllis," said the tridi leftenant's voice, loud and clear in the first breathless moment of alarm among the passengers, who were only now reacting to being slammed in the face by plastic bags. "I am not an animal, to hurl myself upon you."

Phyllis's reply was drowned out by a general commotion among the passengers. In Art's car about half the seats were occupied, and the people were now exchanging exclamations, questions, and comments. As Art rubbed his nose where the bag had stung him a woman seated across the aisle looked over and asked him, almost pleadingly: "It must be just something wrong with the machinery, don't you think?"

Bracing his arms on the seat before him, against the continuing heavy deceleration, he tried to give her a reassuring nod. "Yes, it must be." But he recalled the missing earplug; the Transon tubes were not immune to vandals, not any more at least, and therefore probably not immune to apes, or to terrorists of one persuasion or another. Glancing at his wristwatch, he determined that at the moment the train must be somewhere under the Great Plains, only a few hundred kilometers from his destination. Now the deceleration eased markedly. A look at the blur of tunnel wall and flickersign outside the little window indicated that the train was now moving not much faster than an automobile.

As the train continued to slow toward a full stop, the tridi play was interrupted. A man's voice, strong and reassuring and probably recorded, issued from the speakers on the momentarily empty stage. "Ladies and gentlemen, there is no cause for alarm." The voice paused



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as some decision-making process, human or electronic, selected the next phrase. "A technical difficulty has arisen. To minimize your inconvenience until your trip can be safely resumed, you will shortly be conducted to the surface by company guides. When the train stops, please remain seated until the guides arrive at your car. There is no cause for alarm."

Immediately a girl's tremulous voice added: "Rodney? I—I've always wanted a—a large family." A moment later Phyllis's image, as heavily garmented as ever, was back on stage, confronting the image of Rodney, who was standing in such a way that his uniform's flat lack of any bulging codpiece could not very well be ignored.

The airbags by now were nothing but wrinkled draperies on the seats. The passengers, who had quieted to get whatever news they could from the recorded announcement, were now babbling again and some of them were standing up. The woman across the aisle was once more addressing herself to Art but he could not hear her in the general noise. Now she got up and approached Art, to stand hovering over him. He unthinkingly took this as a sexual invitation and began to caress her hips, bare except for a G-string, but she gave only a perfunctory wiggle of response and he realized that her intent was to peer out of the little window beside his seat.

"Is that *water* in the tunnel?" she asked in a loud, clear voice, looking out. Other passengers heard her words and echoed them, and alarm began to mount.

Art took a turn at the window, trying to squint down at a difficult angle along a curve of dim concrete. The tunnel was circular in cross-section, as was the train, which filled it nearly from side to side and top to bottom. It was hard to see anything but Art thought there was at least some wetness on the concrete wall.

"Yes, it was a Thug who strangled him," groaned a gray-haired senior officer in full dress uniform upon the stage, "but I am the one really responsible for my son's death."

AND THAT was the last of the play. The phantoms vanished from the stage again, as behind it, with a hiss and a clack, an emergency door opened in the front of the car. In a moment a man in a blue translucent uniform had come through the door and climbed upon the stage. Looking at first no more real than Rodney or Phyllis, he wore a hard helmet of blue plastic, with a clear faceplate, and carried some kind of pistol holstered at his belt. His stern expression eased into a professional smile as soon as a quick glance through the car assured him that all was peaceful. He stepped down briskly in front of the stage, making room for two more


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men, similarly dressed and armed, to mount it from behind.

The man who had entered first, and who wore stripes on his sleeves like those of a military sergeant, leaned casually on one of the front seats and addressed the passengers in a loud but friendly voice. "There's nothing to worry about, folks. The company regrets the inconvenience. We'll just have to walk a few steps through the tunnel, that's all. Will you all follow me out, please, through the front of the train?"

Eager as they were to get out of confinement and on their way again, the sergeant had no trouble keeping them moving past him and onto the stage and over it, while his two aides went on to the rear of the car, presumably to start evacuating people from the next car in that direction.

"Nossir, there's no flood," the sergeant reassured a man who had mounted the stage ahead of Art. "It's no more than a puddle. Just some kind of equipment breakdown. Keep moving. This way out, please."

A few people were burdened with enough luggage to make getting over the stage a struggle for them, and Art felt like offering a hand, but he would have had to back up or push ahead in line to do so, and he judged it better to keep the evacuation moving smoothly. So far all was going well enough, considering.

He and his fellow passengers had to pass through two cars ahead of the one they had ridden in, surmounting another tridi stage in each, before an open door in the very front of the train let them descend a short, steep, folding emergency stair into the darkness of the tunnel. Maybe the sergeant had spoken too soon about there being no flood, or maybe he had simply been lying to prevent a panic. From somewhere ahead, beyond the point where the file of passengers preceding Art vanished in the gloom, there came a sound of heavy splashing, as of wading, shuffling feet. And now he could distinguish another watery noise, as of a minor waterfall. The tunnel seemed to slope downward gradually ahead of the train, so it was natural that the water, wherever it was coming from, would be deeper there.

A pebble's toss ahead of Art one of the guides—they were really Transcon's uniformed private police, of course—was shining a pocket flash about, and someone else was doing the same thing much farther on. The only other illumination was that which shone feebly from inside the train, and from a dim red glowing line embedded in the tunnel wall and stretching crooked and broken into an indeterminate distance. Art realized that this was an elongated flicker-sign symbol; if he had been compelled to guess, he would have



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said it was a question mark.

Following the vague form of the passenger ahead, he felt the water rise to slosh about his ankles. Now in the glow of the flickersign he spotted the water leak, or at least one leak. From a small crack in the concrete near the tunnel's curving top, a kitchen-faucet-sized stream came burbling down the concavity of wall. But at least swimming was not going to be necessary, for now just ahead another sergeant with another pocket flash was lighting the file of evacuees into a doorway set into the curved concrete of the tunnel wall. When Art neared the door he saw just beyond it the steep steps of a service stair ascending in a tight helix.

He climbed in the wet footprints of those ahead. At a landing that Art hoped was near the top, but later proved to have been approximately halfway up, another policeman was stationed to urge them on. It was a good thing there was nobody in a wheelchair. "Step right up, folks. When you're all assembled on the surface we'll see you safely across the river, then get you on another train. Sorry for the inconvenience. This way . . ."

A black woman past middle age, gasping from the climb, wearing gigantic false breasts and an obvious merkin of false pubic hair beneath her transparent gown, stepped out of line to argue. "River? What river is this? Why were we halted here, for sex's sake?"

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"It's the Mississippi, lady," said the officer, politely gesturing her upward, then when she still delayed, taking her arm with easy firmness and propelling her along. "You're almost in Chicago. Don't be alarmed, we'll get you through in good shape."

Maybe three hundred kilometers to go, Art estimated. As he climbed on, he could still hear the guide's voice from behind: "Have to keep moving, folks. No telling how high the water'll come up these stairs if the tunnel should collapse down there. Step along, please. If you should see a little light rioting on the surface, don't let it throw you. Just assemble where you're told, and we'll see you through."

OF COURSE there was adequate lighting on the stair, but still it was good to finally distinguish daylight coming from above. At its top the stair delivered its stream of refugees into a graceful low concrete structure that was open on three sides to the late summer afternoon. The structure looked as if it might serve as a picnic shelter on more peaceful days. It stood surrounded by a half-wooded, parklike area. The near bank of the wide, placid river was little more than a stone's throw away, at the bottom of a broad gentle grassy slope. The sun was lowering over the woods behind Art's back as he faced across the river toward a solid



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array of wooded bluffs that rose above the distant shore.

In and around the shelter lay many pieces of freshly splintered wood that might very recently have formed picnic tables and benches, and nearby a trash container lay on its side, meager contents scattered. But there were no rioters in sight. Some forty or fifty passengers with their luggage, apparently all who had preceded Art up from the tunnel onto the grass, were standing in loose formation close by the shelter, like some motley levee of inducted troops about to begin their training. A single uniformed policeman stood casually before them, giving them something to look at, at least. Three more police, one wearing inconspicuously on his collar what Art supposed was an officer's insignia, were standing inside the shelter. One of these carried a radio buzzing with distant messages. With the three police was a shivering middle-aged man wearing a translucent coverall and thick, tough-looking clear boots with mud dried on them. For a moment Art thought that this man too was armed, but then he saw that the holstered object at his waist was an electronic calculator.

Following the gaze of these men, Art saw that the park was becoming not so peaceful after all. Down near the water people were emerging at a run from the concealment of some trees. The people were mostly men, running like clowns in twos and threes and half-dozens, whooping and waving. There were twenty or twenty-five of them altogether, and they might have been playing a game, or just scampering in high good spirits. One was waving a festoon of what appeared to be cables or plastic tubing.

The man with the calculator at his belt was talking rapidly to the police; with a little sideward glance he included Art in his audience, and went right on. "So we had our boat close in toward the west bank here, taking sediment samples, and just as I turned to say something to Carl, why pow, this rock went by my head and missed me by about a centimeter. And then I heard this mob up on the bank start yelling. Sex, once you hear a yell like that you know what it is, it means a bunch of people have all gone ape. Carl had his helmet off, see, but he still had his diving suit on, and it must have looked almost opaque and they must have thought we were from the monastery. I gunned the boat to get out from the shore, and then we must have hit something, a log or a piece of junk. When I came up for air that mob was heaving more rocks, there were splashes all around me. I ducked under and swam and waded, and came downstream about half a kilometer and climbed out here when I saw the uniforms. Never saw what happened to Carl. I hope he managed to grab his helmet and tanks before he went under."



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The capering people near the riverbank had disappeared into the trees again.

"Looks like they've got her burning, finally," one of the police said, squinting to the north, where the bank of the river on which they were standing mounted higher in tree-clothed bluffs. Rooted somewhere among the trees atop the bluffs, an ominously burgeoning growth of black smoke towered like the djinn of riot above the countryside.

"Must have been an old building," another policeman remarked.

"Did someone say it was a monastery?" Art put in, shocked at the indication of bigotry without being surprised by it.

"Yes," the river engineer (or whatever the man with his calculator was) answered. "Oh, not Church of Eros. One of the old Christian ones."

"That's hardly an excuse." Art watched the plume of smoke grow fatter. All this time a continuing trickle of passengers were continuing to emerge from the stairhead and straggle into place in their loose formation on the green.

"Well, I live around here," one of the police commented. "Not right for people to take the law into their own hands, but what can you expect? The rumor has been going around that the monkeymonks up there have been carrying on some kind of experiments with abortion specimens. Not just the kind where the scientists gain knowledge from them, but creating some kind of monsters. Chastity, I don't believe all I hear, but how do you expect people to take it when they're so mysterious?"

No one said anything for a little while. A poor attitude for even a private policeman to take, thought Art, practically condoning rioting and vandalism. But it would be futile to argue.

Shortly the engineer remarked: "Here come a couple more refugees." Hiking across the inviting park, from the direction opposite the smoke, came a couple who had evidently been picnicking, for he carried a red plastic picnic cooler and she a small outdoors pack and a folded translucent blanket.

The man was tall, lean, thirtyish, and freshly sunburnt. The girl was a full-bodied brunette of eighteen or twenty. As they drew near, Art saw that what he had at first taken for sunglasses on her face were really artificial eyes of what must be an advanced design. They might have been opaquely dark sunglasses except that the thickness of their bulky frames was molded in flush to the skin, all around her eyes. She was neatly and modestly dressed in a sports bikni of the latest style, her translucent bra extended in twin peaks by finger-long cones of pinkish nipple-colored plastic.

As the couple approached the shelter, the man spoke to the police



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in a husky, somewhat hurried voice. "Officers, we're very glad to see you. I hope you can provide us with some kind of escort back across the river, or get us on the train to Chicago if possible. Our boat was destroyed, you see." The girl said nothing, looked around nervously, and stayed close to her companion. She looked at Art, but he had trouble reading her expression; the artificial eyes functioned like a mask. Faint cat's-eye gleams shone in their dark lenses, and the plastic frames were studded with artificial jewels. Or could those stones possibly be genuine?

"Sure, you can come along," the officer with the collar insignia said. "Got your boat too, hey?" He changed his position and stretched as the last rescued passenger, sitting in a wheelchair (so there had been one, after all) was heaved into view at the stairhead by a team of puffing police. "I guess we're all here now. Let's start getting these people over the water."

THE TWO saved picnickers walked beside Art to join the other evacuees. As the whole group with its escort of police began to move, the girl let out a sudden, choked little cry, and Art saw her actually begin to tremble. Following the direction of her gaze, he beheld a new eruption of rioters boiling out of the woods and cutting across the passengers' path, evidently with the intention of intercepting them before they could reach the river. Art now also saw in midstream a large launch that had evidently just been called from across the river and was now heading in to the near bank where a small dock waited at the end of the passengers' present line of march.

The march continued. The officer barked an order or two, and his blue-uniformed men, now about a dozen strong, closed in beside the much more numerous troop of people they were convoying, their screen forming most tightly at the point where the threat was greatest.

There were perhaps thirty people in the mob approaching. Half a dozen or so were women, and these were screaming loudly, urging on the men. Most of the men wore the gaudily colored and oversized codpieces favored these days among the youth of the Basic Income class. One who was so garbed, a large, florid young man with close-set eyes, went right up to the police line and peered over uniformed shoulders at the shrinking sheep behind as if about to choose one for slaughter.

"Any triplet priests in there?" the florid one demanded. "Any sublimatin' vivesectionists? We got one already, but there's some more experiments we'd like to try." He seemed on the point of trying to push his way through the protective line, and one of the bigger police shoved him roughly back. When he



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demonstrated anger at this treatment he found himself looking at a drawn handgun.

"We're just passing through, bigmouth," the policeman told him. "Now you just pull your jaw out of our way and let us pass."

There were no firearms visible among the rioters, and indeed Art could not see that they carried weapons of any kind. The sight of the gun knocked them back almost like a physical force. Moving like the cells of some multiple organism, keeping together as if under the control of a single mind, they fell into retreat.

*One we got already.* The words echoed in Art's mind. But maybe they were only brag and bluff.

The passengers with their convoy of police moved on unmolested toward the dock, which was now only about a hundred meters off. The immediate threat was apparently over but the girl with artificial eyes, walking beside Art, continued to breathe as if on the verge of hysteria. Her escort held her by the arm and kept speaking to her in a low voice, but his efforts to calm her had little effect.

The police, evidently to keep a prudent distance from a patch of dense woods into which the rioters had retreated, had bent the convoy's line of march almost parallel to the river. Now in those infested woods another outbreak of shouting rose up, blended with the noises of running feet trampling the undergrowth. The girl moaned and moved away from the noise, leaning against Art like a frightened child. He put an arm around her full body and squeezed it in a polite caress. "My name's Art, by the way. What's yours?"

He would scarcely have been surprised to receive no answer, but one came. "Rosamond. Rosamond Jamison. Oh!"

Now from the woods came a man's voice shouting, but words indistinguishable but pain, fear, and despair all blended in. The man who was walking on the other side of Rosamond Jamison froze in his tracks, so quickly that those walking behind him had trouble avoiding a collision. "That was Steve," he said to himself in a low voice that Art nonetheless overheard distinctly. In another moment Rosamond's escort had caught up with the police lieutenant and was grabbing at his shoulder. "Did you hear that? A man's in trouble over there. Aren't you going to do something?"

The voice shouted again, this time in terrible wordless agony.

The lieutenant, who had started to say one thing, began again with something else. "I've got my own job to do, getting these people safely on their way. That could be some kind of a trick, just to get us into the woods."

"No it isn't. Didn't you hear that scream just now? You think that could have been a trick?"



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The lieutenant, inflexible, shook his head. "I've got my orders, my job. That's it."

"You can't just go on."

The lieutenant turned away.

The tall, sunburnt man, anxiety unabated, hurried back to Rosamond. "Here." To her he gave the weighty-looking picnic cooler. She took it automatically and carried it with some difficulty as she continued moving forward with the refugee column. The man said to Art: "Try and look out for her, will you? See that she gets on a train to Chicago?"

"Of course, I'll try to help. But what are you—?"

Muttering some last, unintelligible phrase over his shoulder, the man was gone. Moving with unexpected strength and speed, he had pushed his way through the police escort on the inland side and was running toward the woods before anyone but Art became aware of his intention.

"Halt!" the lieutenant bellowed, when he did catch on. "Come back here! Don't be a sublimatin' fool!"

The fleeing man did not pause or turn. In another moment he was out of sight in the woods. Rosamond, struggling forward with her picnic cooler, looked after her companion only briefly and then faced forward again, concentrating her efforts on keeping up with the convoy's rapid pace. She was having a hard time doing so now. In the rear of the column shifts of volunteers


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were practically carrying the wheelchair and its terrified occupant.

Art put a hand on the cooler's carrying grip. "Let me help."

"Oh, thank you." But she seemed reluctant to let him take the weight. When he did so, however, they made better time.

The boat, which was moored at the dock by the time they got there, proved to be some sort of sight-seeing craft, evidently commandeered for this occasion. With all the refugees aboard, it was quite crowded, and some had to sit or squat on the deck between rows of seats. Most of the police remained behind on shore, and as the boat pulled away from the dock Art saw them beginning to march in loose formation back up the slope toward the emergency exit from the tube. Other trains would be arriving behind his, Art realized.

ALONG THE eastern, Illinois shore the woods looked wilder and less park-like than those of Iowa just left behind. When the boat scraped bottom on the eastern side, the police pilot made an announcement, straining to be cheerful. "Folks, will you all wait right here in this area, please? We have to take the boat back across the river and pick up some people from another eastbound train. Then we'll get you all on your way to Chicago very shortly. Get off the boat promptly please, step right into the water there. It's not deep." There was no dock here on the eastern shore and one policeman was in the water himself, handing passengers off into the knee-deep Mississippi. Plenty of volunteers rallied around the wheelchair again, with grins and jokes. People were sometimes marvelous.

A few steps had to be taken on the oozy river bottom to reach the muddy shore. Once on solid ground most of the passengers gravitated inland, as if hoping, in spite of what the guides had said, that there might be another tube terminal right at hand. Thirty or forty meters inland a narrow unpaved road roughly paralleled the river, but traffic seemed nonexistent. Beyond the road and behind a wire fence, the tree-covered bluffs rose up unpromisingly. The passengers who had probed the farthest soon came back with unhopeful reports. There was apparently no place to go and nothing to do but wait as they had been told. No one knew where the point of access to the eastbound tunnel might be.

Art and Rosamond, having the cooler to carry and both of them lacking any desire for an aimless hike, remained somewhat behind most of the other passengers as the latter drifted up to hang around the road. The two of them sat down upon a grassy bank where the sun, now lowering close over Iowa, still shone brightly. Rosamond was quiet, and seemed less fearful now,



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though she was still looking intently back over the river.

"He'll probably come over in the next boatload," Art offered, trying to be comforting. "He's probably all right and they'll be able to pick him up and bring him along."

She turned to him and reached across the cooler to tickle the palm of his hand, and smiled at him beneath her enigmatic eyes. "I think I would enjoy some sex right about now."

"Of course."

They spent an enjoyable ten minutes at it, with Art's paper shirt spread over the rough grass beneath their bodies. Afterward as they lay together relaxing Rosamond began to shiver; the sun was so low that it had lost its heat, and a cool breeze had come up. In a little while she sat up and pulled her discarded bikni on again but of course it was too small to provide any real warmth. Art picked up the paper shirt, now notably wrinkled and soiled, and held it out. "Afraid this is the best I can offer you. There doesn't seem to be a clothing vendor anywhere around."

"You'll be cold, won't you?"

"I'm a little fat." He stood up and adjusted his codpiece and transparent trousers. "I guess that helps to keep one warm."

Rosamond pulled on the shirt, and then sat down in the grass again with her legs crossed, feet and all tucked completely in under the garment so that it fell around her like a small tent. The shadow of a bush fell over her now and in the dulled light the shirt was practically opaque, and she was concealed and shapeless from the neck down. Now it was Art's turn to shiver slightly, and his shivering was not caused entirely by the cold. Unwholesome thoughts had come unbidden to his mind. He controlled himself, however and, like a gentleman, looked away.

Just as he thought he had the temptation to repression really squelched it popped up again with a new ploy. The poor girl was still shivering, wasn't she? He should do what he could to help, right? "Want my trousers?" he asked. It was incidental, he told himself, it was not important in this emergency, that removing the trousers would mean taking off the codpiece too and this would mean stripping his detumescent body of his proper sexual emphasis.

She appeared not to find anything wrong or suggestive of sublimation in his offer, but declined it all the same. "No, this is fine, thank you. You've been a wonderful help. I hope I can repay you some day."

He slew a mosquito on his bare shoulder. The river before them was beginning to reproduce a sunset. Around them on the riverbank a number of the other stranded passengers had also paired off and were embracing or resting between embraces. The presence of these



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others made real impropriety unthinkable and helped Art put temptations from his mind.

There were more boats in the river now, police or other official craft of some kind, and their searchlights were beginning to play over the far bank. Groups of people were still moving around over there. They had improvised banners to carry, and rhythmic chants to sing. From where Art sat on the eastern bank the words of neither song nor sign could be distinguished, but the powerful tones of the chanting carried across the water.

III

As the train began to slow for the Chicago terminal, Rosamond leaned across the seat arm and snuggled once more against Art's shoulder, while one of her hands, like some small animal seeking shelter, strayed inside his tattered shirt. "Art, are you sure you can't take the time to meet Daddy tonight? I know he's going to want to thank you for helping me."

"I wish I could, but I'm really anxious to catch up with my family." Of course he hadn't told her why he was trying to catch up with them. He glanced at his watch; it was nearly midnight. "Some other time."

"You be sure and call us while you're in Chicago. I mean it." She dug out a pencil and a piece of paper from the pouch attached to the seatback in front of her, and scribbed a number, using the top of the picnic cooler as a desk. When he touched the plastic top, in reaching to pick up the paper, it felt at least as cold as ice. Like her eyeframes, the cooler was perhaps more expensive than it had seemed at first sight; whatever picnic remnants were inside were probably frozen solid.

As he emerged from the tube car into a vast cheerful cave of ceramic tile and warm light, Art looked around to wave goodbye to Rose, and caught only a glimpse of her in the crowd, being met and welcomed by a couple of men. Strange girl. But he forgot about her quickly in heading for a huge electronic display describing the city's public transportation system.

It was late enough for the traffic to be light, and the taxi he had chosen as the probable fastest means of transport made good speed through the well-illuminated streets. Still Art shifted restlessly in his seat, and pulled at his beard impatiently. He had the feeling that minutes counted, that even now Rita might be taking some irretraceable step toward an illegal parturition. The feeling was no doubt irrational; any actual birth would have to be months away, of course. But there was some kind of federal law against even conspiring to commit an illegal parturition. Midwifery, as the news media



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usually called it. Art didn't know exactly how far one could go without running afoul of the law. He didn't know exactly what the law said. It was one of those things he hadn't wanted to learn about, probably because all along he had been subconsciously afraid that someday it would menace him and Rita.

How could she do such a thing, get them into this kind of trouble? In her note she had said that she still loved him. She had used the word twice. But now he was being rhetorical with himself; he knew his wife, and she was perfectly capable of doing this thing, loving him or not.

While waiting for a traffic signal to change the cab driver turned in his seat and glanced back at Art through the bullet-proof partition. Through the intercom speaker the driver's voice asked: "Someone meeting you?"

"Yes." Art stretched the truth. "At the block entrance. It's a block of townhouses."

The cabbie faced forward again without answering. Art had just killed his hopes of collecting an easy bodyguard fee, in what the cabbie must know was a good neighborhood.

They were moving again. Now the building walls that had lined both sides of the street fell back. The cab was entering a section of the city that had a look of newness, of having recently been rebuilt.

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Under new streetlamps that closely simulated daylight, tall elms warmed their fine June leaves. On each side of the wide, gently curving boulevard were new-looking stone walls, smooth enough to be unscaleable but still with enough irregularities in their texture and color and shape to give them almost the look of natural formations. The walls were windowless, two or three stories high, and Art knew that they enclosed townhouse blocks, about the size of the old city blocks they had replaced. The pedestrian entrances, never more than one on a side, were narrow-mouthed and well-lighted; inside each entrance, Art supposed, there would be a security guard in a protected booth. Vehicle ramps curved down from the street to enter a subterranean level of each block.

The cab stopped in front of one such entrance, and Art put money into the slot in the partition, got back his change, and disembarked. He walked right into the bright rocky tunnel of the entry, through block walls that looked as thick as those of some ancient castle—or cave, perhaps, where the first men had sheltered from the terrors of the night they could not understand.

He came quickly to a place where the bright-lit narrow passage was blocked by a gate of steel grillwork, heavily functional despite its ornamentation of nymphs and cupids. In a booth built into the wall beside the gate sat a gray-uniformed man who looked out at Art through a small window of bulletproof glass. Through the window Art could see that this guard had before him rows of buttons, and closed-circuit TV monitors, and a pistol within easy reach. The guard was eyeing Art with alert suspicion, no doubt sharpened by the lateness of the hour.

"I want to visit George Parr," Art said. "Tell him Art Rodney is out here." He checked the time on his watch and began to wait.

Less than three minutes passed before George came into view beyond the iron gate, which slid open at his arrival. He was smiling and holding out his big-knuckled hand. Aside from the callus pads over the base knuckles of forefinger and middle finger, there was nothing peculiar in the feel of George's hand, lethal weapon though it was supposed to be. And George was rather short. Sturdy, but not bulging or rippling with muscle inside his transparent shirt. His pale hair, almost the color of Rita's, was crew-cut to the same length as his neat goatee.

"How's it going, Art?" George didn't look upset about anything, but then Art could not recall that he ever had.

"Well, I'm upset, naturally. I want to talk to Rita right away."

"She's been here, but now she's gone again."

"What?"



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"That's right. Come in." With gentle pressure on an arm George steered him through the gate. Speaking to the microphone below the guard's window, George added: "My brother-in-law. He's going to be staying with us for a day or so."

Art let himself be steered inside, though he wasn't at all sure about the duration of his stay. "Where is she now?" he asked impatiently. "Couldn't *you* have talked to her?"

George simply continued to smile in his likable way. "Come on in and have a look at our new home. We can talk the whole situation over. It's not something that can be settled in a couple of words. Ann's fixing up a bed for you."

"ALL RIGHT." Art sighed, abandoning whatever hope he had left of somehow catching up with Rita tonight. Let Ann fix the bed. He was willing to bet she would never offer to share it with him, which was fine with Art. He would make polite gestures of lust at her, whether or not she had the good manners to reciprocate, but in truth she aroused him not at all.

Another few meters of tunnel and they had reached the interior of the block. It looked just about as Art had expected, but still he was impressed. Most of the interior was a single open space, wide and pleasant, green now with summer grass and trees and shrubs. This central park was mostly in darkness now, but was surrounded by the lighted windows and patios of the block's thirty or so townhouses, which were all backed against the block's encircling outer wall and were probably integral with it.

Shaded lights on knee-high poles gently illuminated curved paths of flagstone paving that branched off into the balmy night in several directions. Crickets sang of summer and tranquility. In spite of his worries Art found himself pausing, soothed by the peaceful scene. He said: "It looks like you have things nice in here."

George pounced gratefully on this retreat to banality. "I tell you, it makes me feel a lot easier about the kids. There's even talk about getting our own elementary school started right here in the block." He gestured the direction for Art to take and they walked on. Somewhere nearby, people playing string instruments were rehearsing a melody, starting and stopping and trying again. Somewhere else a wild party was in progress, but its uproar came heavily muted from some deep interior place, and to the musicians inside their own house it must be entirely inaudible.

"Yes, very nice," said Art, following where George led.

"We have our own emergency power generator, too," said George. "In case vandals knock out the city power or there's a breakdown. That's happened a couple of times in the last year."



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"Good idea." Art's sandals scraped on the slight unevenness of the flagstones as they walked a pleasant curve between the houses' vine- and bush-screened patios and the openness of the central park. Each house was surprisingly private behind its trellises or open-work wall or vines. Art wondered if Rita might be sheltering at this moment in one of these discreet dwellings, hidden by friendly conspiratorial neighbors until Ann could throw the persecuting husband off the track with some halfway plausible story. "Yes, this is a beautiful place."

"Costs an arm and a leg and a testicle too," said George, his voice now turning grim. "I don't think there's a man in the block who doesn't have a job—I mean a *good* job—or his own business. In fact I'm repressin' sure there isn't." Talking man-to-man, George would sometimes use strong language. In front of ladies, Art had noticed, he never did.

"How are things at the dojo?" Art asked. Then he turned his head at the unexpected sound of a splash, followed by a trill of feminine laughter. Way out in the middle of the common park the lights of a swimming pool glowed in the soft, safe darkness, and he saw the wet tan gleam of a bikinied body. What were possibly the lights of another pool were almost completely blocked off by intervening shrubbery.

"Oh, good enough, I guess," said George. "Here's our happy home." He walked behind a vine-covered trellis to a patio. Ann, as if she might have heard them coming, was peering out with a hospitable smile from her doorway of white stone and Spanish-looking ironwork. Stalking across the Parrs' hedged-in patio on thin metal legs, a kneehigh electric bugkiller lured flying creatures to itself with a nervously flickering eye of yellow light and a whisper of attractive noises. It broke its whispering with zapping hiccoughs as some of its larger victims were ingested.

As Art had expected, Ann's dress was radical. Her skirt fell almost to her knees, and her blouse almost completely covered her breasts and left only a narrow strip of midriff bare. Both garments were loose-fitting and practically opaque. Also as he had expected, Ann's chin was lifted high in challenge despite her smile; she would be glad to have him stay in her house for a day or so and argue; maybe she would be able to convert him. Her face was reasonably pretty, and her hair a curly brown. She was small and strong, like George, and her strength was even more subtle than his.

"Rita thought you might come after her, Art," she greeted him. "You didn't bring a bag? That's all right, there's a clothing vendor right here in the block. Of course you're staying with us, we have a



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spare room now. My brother was here for a couple of days, but he moved out when Rita showed up." Ann shrugged away her sibling's behavior.

"Fred's here in Chicago too?"

"Yes. The day he finished high school he just had to apply for Basic Income, like a fool. Couldn't see going to college, or even trying to go. He wants George to give him a job, or so he says. Come and see your children, they're asleep."

INSIDE the townhouse the furnishings were rather sparse and disorderly, indicating that the Parrs were not yet done with the job. Evidently they had barely had time to unpack in their new house before a series of their crazy relatives began to arrive from California. Following Ann to some ascending stairs, Art noted an electric fireplace in the living room, where the floor looked like real hardwood. He could well believe that only the prosperous lived in this block.

After gesturing for silence in a second-floor hallway, Ann slid open a door. Art went in to find Timmy and Paula curled in their usual positions in the strange bed, child-bodies clothed in opaque pajamas like unopened flower buds all sheathed in leaves. Across the room in another bed were two small mounds that would be George Jr. and his younger brother Enoch. On the wall Art noticed a version of what he recognized as a traditional Christian statuette, depicting the putative founder of the sect fastened to a wooden cross. The figure was quite large for the little room, and crudely but strongly carved in some pale wood. He wondered if Fred might have done it.

"Don't wake them," Ann whispered, as Art bent over his own two children. "They're worn out from traveling."

Art, who had not intended to touch them and risk an awakening, now gave each a kiss. They were not as deeply asleep as he had thought, for Paula reached up to tangle baby fingers in his beard. Then, as if reassured, she slept again. Tim, almost three years older, murmured: "Daddy."

"Go to sleep," Daddy whispered. And Tim did so, for once.

Art walked downstairs again with Ann. "So," he commented, "Rita's gone into hiding somewhere. How long does she expect the children to stay here?"

"Art, you know we don't mind having them in the least. Husband George, where are you?"

"That wasn't what I asked."

"Black Russian?" asked George from below, appearing in the doorway of what was evidently the recreation room, holding a couple of plastic bottles in his hands.

"Thanks, I will," Art answered. Inside the rec room was a bar, and a second fireplace, with a tag marked INSTRUCTIONS still hanging



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from one andiron. Art sank down with a sigh upon a leather-like couch, and received from George a glass with ice cubes floating in a dark and powerful fluid.

Ann had vanished, apparently to the kitchen, for there drifted in sounds suggesting the preparation of food. From out there somewhere she called: "How do you like our medieval fortress? I'm very happy with it. The kids have a safe place now."

"It's very nice," Art called back, downing his first swallow of Black Russian. "I think I saw two swimming pools, didn't I?"

In a chair opposite the sofa George sat, or squatted, pulling up his sandalled feet and folding his legs in an effortless contortion. "The pool in the bushes is more Ann's than anybody else's. She's always wanted a nude pool available, and when the blockhouse corporation was being formed she kept standing up in meetings and demanding."

"Well, why shouldn't I?" Ann, smiling, was in the doorway, already pushing a serving cart laden with sandwiches and cups of soup. Had she been expecting Art? "You know me, Art."

He thought he did. While moving clutter from a small table to make room for some food, Art got a good look at the covers of some of Ann's radical magazines. The cover photos featured startlingly shrouded bodies, and bold print promised that the articles inside were of shocking frankness, detailing what every adult ought to know about the history of celibacy and the ancient, once-honorable techniques of self-control. Art took these to be the kind of magazines that promised more in the way of obscenity than they usually delivered. He would have expected a more sophisticated obscenity than this on Ann's coffee table. He thought that she was watching for his reaction to the magazines, and he tried to show none at all. Maybe they were just left there as argument pieces.

Art didn't much like the idea of his children staying here, but where else was he going to put them while he searched for Rita? And they were too young, he supposed, to be much affected by Ann's morals—or lack thereof. He liked to think of himself as fairly liberal, but this woman just had a dirty mind. It was as simple as that. He could imagine being marooned in a long orbit with her, and her wearing long opaque coveralls continuously, and refusing sex through all the months and years.

He had thought he was conjuring up that image as a private expression of his scorn, but somewhere in its ugly heart a kernel of attraction lay, which made Art angry when he realized it. Repulsive woman! He could feel sorry for George, who was a gentleman, except that George must have known what kind of woman he was marrying



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and George still seemed very well satisfied. George in his own quiet way was evidently pretty far out himself.

"You know, old girl," said George, the squatting guru, "your ways are actually more old-fashioned than your opponents' are. You go back to the twentieth century. Or was it the nineteenth when everybody pretended to be chaste?"

Ann took a seat on the sofa next to Art and gave him a look intended to show comic exasperation with her husband. "I'm hungry, let's eat," she said. "Oh, George, you know it's not what's new or what's old-fashioned. I know things go in cycles. It's not whether people wear suits when they swim or don't wear them, it's *why* they wear them or go without."

"Ann." Art set down his glass, which had somehow become empty. "Ann, where is Rita? Where did you send her?"

"Art, listen to me. I'm not going to tell you where she is, because I don't know."

"Don't *know*? Come on. When is she coming back to get the children? As soon as I leave?"

Ann, with maddening assurance, ignored the question. "Art, I suppose you realize that she's expecting the people at Family Planning to make trouble for her."

"Of course I know she's in Family Planning trouble. Why do you imagine I'm here?" If he hadn't had the drink he would be shouting at Ann by now. "She left me a note, I know she's pregnant. I even had a call from the FP before I left California." He repeated as well as he could the few words of Ms. Lazenby's message.

Ann listened in sympathy and indignation, as if the FP agents had broken down Art's door. "Well, if and when our third one comes along—I take my pills and pray it never does, but if and when—I'm going to do just what Rita's doing. No court or no doctor is going to murder one of mine, I don't care what the laws say."

"You have that right," affirmed George in a low voice.

She flashed her eyes over at her husband, glad of support though not needing it, and plunged on. "And no one's going to make me call it unwanted, either, not once I know that it's alive!"

Drink or not, Art's nerves were worn and his voice got louder. "Most people would say that you yourself have rather a murderous attitude toward the wanted people of the world. The ones who are alive right now, including the babies. You're talking about adding to the crowding. Remember Calcutta. Remember Rio. Where will this year's cannibalism be?"

George had begun on a cup of soup with apparent good appetite. Now he reached in between the disputants for some crackers. "Peace, brethren, peace, sistern," he said,



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smiling genuinely. "Art, how was your trip?"

"Oh, exciting." Art sat back and took an interest in his own soup. Arguing general principles with Ann was certain to wear him out and get him nowhere. Let the atmosphere cool off for a minute and then he would return to the subject of his wife. He began to tell the Parrs of his adventures.

The attack on the Christian monastery was naturally a shock to Ann, and he let her see the real sympathy he felt for any victims of persecution. "I suppose we passengers should have stopped and demanded that the police do something for that man who was screaming in the woods—but they were only Transcon's private police, and I suppose they had their orders, as they said."

Ann looked at him wanly, mystified. "But *why* was the monastery being attacked?"

"One of the people there said something about the monks' performing experiments on some aborted fetuses. Some absurd, muddled story about creating monsters. Of course a lot of scientists work with fetuses." Ann for some reason seemed shocked, perhaps even frightened; she was sitting quite still and listening intently. Art went on: "It *does* strike me as rather inconsistent for these monks, who are presumably as opposed to abortion as you are, to use fetuses that are still biologically active in their experiments, whatever research they're really doing. Of course that's no excuse for violence, for mob action."

Ann and George exchanged a look. Then she brought her attention back to Art. "Who was this girl you said you helped?"

"Oh, her name was Rose something or other, lived in Chicago. She was really frightened, for which I don't blame her."

Ann was upset. "There doesn't seem to be any safety for anyone any more. I'm glad we've got this place. Art, you and Rita should think about getting into a townhouse like this. I don't think California is any safer to live in than Illinois."

"I'm sure we have a lot of problems out there, too. I'll talk over our housing situation with Rita after I've found her again. Now tell me where she is."

His voice was not threatening but it was grim and determined enough to shake Ann back into her anger mode again. Her eyes brightened and her chin lifted. But before she could speak George put out a peremptory hand and got to his feet with a neat quick untangling of his legs. "Ann," was all he said, but to Art's surprise, she closed her mouth.

George set down the empty soup cup that he had been turning round and round in his fingers for some time. "Art, I'm satisfied that Rita's in good hands."



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"Then you know where she is. If you know, you're going to tell me."

"Let me finish. Let's say that I know my sister. I believe she knows what she's doing. Isn't that enough?"

"Not for me." Art was inflexible. "You knew she was trying to do something wrong, and dangerous, and maybe you could have stopped her but you didn't try."

There was a pause that seemed long. Ann, evidently still considering herself commanded to silence, was biting her tongue. Her husband still held the floor, dominating the room without effort, unconsciously rubbing his enlarged knuckles. "I know it's dangerous," George said unhappily. "She could go to jail for what she's doing. But she wants to do it. She made a free decision."

"What about me?" Art demanded. "Don't I have any say about how many children I have?"

Ann's headshake snapped a decisive No. "Not if it means killing."

"*Killing?* How can you call an abortion—?" But it was no use. Even if it had been desirable to argue with Ann, he could have found no words. Ann's reality was so far from the commonly accepted view that there seemed to be no place to start. At least Art could not find the place, not after midnight, not after a day of wife-chasing and strain and rioting and Black Russians. Somewhere along the line George had refilled his glass and by now it was half empty again. "I wish we could forget about our differences," Art went on, lowering his voice. "Rita's welfare is the only thing I'm worried about right now. All else is secondary."

"We know that," said Ann with impulsive honest sympathy.

"Eventually I'll find her," Art insisted. "You know I'm going to bring her home. You think I'll just let her drop out of my life for six or seven months? And what about the children, are they going to stay here for that length of time? Timmy should be starting kindergarten . . . it's an insane scheme and I won't allow it. In any case Family Planning will put a stop to it if I don't. Don't you suppose they can quickly track her down? Isn't there a law against conspiracy to commit parturition, that they could prosecute her under already?"

"Not without more evidence than her dropping out of sight for a few days," Ann said quickly. "Not without a lot more evidence than that."

"For a few days? I don't understand. What does she hope to accomplish by doing that?"

Ann fell silent again. George waved a hand and seemed about to speak, but then only sat down again and stared into his new fireplace.

"Will somebody tell me, please?"

"You see," Ann began slowly, "once nine months have passed



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since conception, no doctor is allowed to put the baby to death for any reason, without the direct petition of the mother or other surviving next of kin. The Supreme Court was very clear on that several decades ago, and the decision still stands. And what does a conspiracy indictment matter to a mother who can save her baby's life?"

Baby? Oh, of course, she was talking about the fetus. Art was no longer sure that anything being said made sense. It was well after midnight, and they must all be tired. He was, certainly. Eros, but Rita too must be tired this midnight, wherever she might be.

Ann said: "Art, your room is ready. Whenever you want to go up."

"In the morning, then," Art told her. "But never doubt that I'm going to find her and take her home."

## IV

Fred Lohmann woke up with someone's smooth arm thrown across his bare chest and someone's delicate breath snoring gently in his left ear. Where was he? Oh yes, the YPPC hotel, in Chicago. Yesterday he had checked out of the Parrs' plush new house, more or less urged on by his sister Ann, and anyway not anxious to get himself involved in whatever had brought Rita Rodney in weeping from California. Rita had looked pregnant, far enough along to show a little. Say, didn't the Rodneys have two kids already?

Anyway, all that was none of Fred's affair. He had big problems of his own, and important events were scheduled for today. First of all, this morning Fred as a newly independent and adult citizen was going to collect his first Basic Income check from Uncle Sam, the check covering the month that had passed since his graduation from high school in California. And that first BI check might well be his last; he sublimatin' well hoped it would be anyway, for this afternoon he was going to have a real workout with George and if things went well at the dojo he might be a jobholder by tomorrow. And that would prove a lot of people wrong.

Now, what about this sleeping arm that weighed so gently on his breathing? In a moment he remembered, her name was Marjorie. She too was a newcomer to Chicago, looking for a job, and last night the desk clerk at the Y had assigned her and Fred to sleep together. The atmosphere at the Young Persons' Play Club was certainly different from what it was at the Parrs'. Ann and George might get a chuckle out of it when he told them. Behind the front desk in the lobby was a big sign on the wall reading PURE THOUGHTS ARE THE MARK OF A DIRTY MIND. And they weren't trying to be funny, either, they were really that old-fashioned here. They



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had a strict house rule requiring at least two people in every bed. Marjorie, though she herself was by all indications a conservative, well-brought-up, lascivious girl, had agreed with Fred last night that the sign was funny, and they had shared a little laugh about it. She was a good sex partner, too, so things had worked out all right. He might have been paired with someone a lot less congenial.

Fred disentangled himself from Marjorie's naked body and got out of bed without awakening her. The bed folded down on both sides of the wall that separated his tiny room from hers. Ingenious, Fred thought. When the bed was raised it completed the wall and the rooms were separated, allowing either party to have privacy for business or social reasons. A hole was created through the wall, connecting the rooms, whenever the bed was lowered for use. Last night Fred had discovered that the bed mechanism made it impossible to raise or lower either side independently; if you wanted to lie down, you had better be ready for sex, or at least a polite attempt at sex, with your appointed partner. George was going to have a good laugh when Fred told him. Except George seemed to have a lot on his mind just lately.

After a quick visit to the alcove that held his toilet and shower, Fred came back to the center of his small room, studied his tall, muscular body in the wall mirror, and did a few light exercises, just loosening and testing a little, making sure the knee and elbow joints moved freely and with plenty of snap. He tensed his corrugated belly muscles and snapped his rocklike fist at his solar plexus, leaving a small red mark. He told himself he looked older than eighteen; the beard was coming along okay. But he hadn't really worked out in more than a week, and though he tried not to admit it to himself he was scared by the thought of this afternoon's pending test with George.

Would George take his word for it that he really had a brown belt ranking, or might George call California to check, and catch him in a lie? The idea was to do really well in the workout, show George some real good moves, and he wouldn't bother to check up. He would hand Fred a brown belt to wear and put him to work instructing novices. Meanwhile he would work out all he could, and in a few months start to think about moving up to black . . .

Marjorie stirred in her sleep and seemed on the point of waking up, and Fred hastened to get his codpiece and shorts from the chair and put them on. She seemed like a nice girl, and so Fred was treating her with respect; he wouldn't want to display to her his unmannerly shriveled lack of arousal on this nervous morning.



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. . . all the same, though, you never knew. Some guys who had been around said that the nice girls like this one could really be the coldest chillers once they let themselves go. Looking down now at Marjorie's still-sleeping form, Fred could easily imagine it covered, blurred into sexlessness. Her figure was almost boyish in repose, without the padded bra that she had thrown off last night, and it was years since he had felt any lust for boys. He could picture her eyes opening, their clear and penetrating gaze (so he imagined; last night he had not noticed) pushing lust aside, piercing through his hard male body, seeking to touch *him* . . .

FRED gave himself a mental kick and looked away. Not that he felt guilty. Twins, every normal guy had thoughts about chastity and sublimation, and enjoyed them, too. It was just that today Fred didn't want to get himself into a difficult emotional state.

Still it was impossible not to notice how childlike Marjorie looked in her sleep. In his imagination he found himself putting a long, snowy, opaque gown around her. . . . he kicked himself again, and went on getting dressed.

She woke up, turning and stretching, before he was ready to leave. He looked around at her and swallowed hard, for suddenly the clear-eyed gaze he had imagined was quite real.

"Good morning—Margie. You don't mind if I call you by your first name?" He had forgotten what her last name was.

"No, I don't mind. Uh . . ."

"Fred, Fred Lohmann."

"Yes, certainly, Fred." She rolled over onto her back and gave a routine wiggle of her hips. "Burning with lust this morning, that's me." But her tone made the invitation no more than a polite form.

"Me too." His tone was even more casual than hers. "Too bad, but I gotta get an early start on some business today."

Her eyes seemed to chill, sending something like a sensation of real cold along his back. She murmured softly: "What is a poor girl going to do, when the man she's with says he just won't screw?" The verse from which the line came was latrine doggerel, ancient and more than mildly dirty.

If Fred had ever heard encouragement, this was it. Even Basic Income and karate could wait. "Well, then, how about it, girly?" he asked boldly. "How about you and me just frosting things a few degrees?"

He had been too bold too soon. "Just don't rush it," Marjorie said crossly, with a curve of her spine becoming all sex again. Who could tell anything about women? She rolled out of the bed on her side, into her own room, where she



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reached for a transparent robe.

"I'm sorry," Fred muttered, bending slightly to look at her through the bed-gap in the wall. "Don't get sore." Sublimation, was she going to complain to the management now? Would he be thrown out?

Somewhat mollified, she paused in the act of raising the bed between them. "Just don't rush things, okay?" Her eyes had lost their coldness, but at least she was smiling.

"I'll be around tonight!" Fred called through to her. He helped her lift the bed-barrier into place, and gave his side of it a jovial pat as it sealed him off.

An hour later he had found his way to the nearest branch of the Social Security office and was standing in line. Having no permanent address since leaving California, he had arranged to have his first Basic Income check held for him in the Social Security databank until he called at an office somewhere to pick it up. For whatever reason, a number of other people seemed to be making similar arrangements. The line was eight or ten people long, and not moving very fast.

The jobholders in the office sat snugly fortified behind their desks and counters and computer consoles, or else walked quickly by, giving the impression that they were up to something important. Chastity, it was just that they had some kind of political pull, or they'd be the ones standing in line. They seemed to have little regard for the people they were processing so slowly. Fred lit up a small cigar.

Now the window at the head of the line was being closed for some reason, and a man came to divide the line and lead its fragments to different windows.

"No smoking in here!" he snapped at Fred. He was a paunchy, waddling man who reminded Fred of a particularly unpleasant high school teacher he had suffered under only a few months ago. "No smoking, I said! Put it out at once or you'll have to leave the office."

"I got a right to my check," Fred muttered, but so weakly that it was doubtful if the officious man even heard him. At the same time Fred was crushing out his cigar on the sole of his sandal, for he knew very well that he was never going to win an argument with the paunchy jobholder. Not here. Now, if they ever met somewhere else . . .

Fidgeting and waiting, thinking vague and sullen thoughts, Fred inched forward with the line. At last he reached the window, gave his name and federal identity number, and held the tips of his fingers on a scanner-plate. After a few seconds there came a machine-gun clacking from a printing device beside the clerk who was processing Fred, and some official-looking papers emerged.



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"Well, this is your first check, Fred. Do you have a permanent address to give us yet?"

"No. I'm staying at a YPPC now."

"Address?"

"It's here in Chicago. The one on North State Street."

The clerk made a note with a stylus on a computer input plate, then pulled more pieces of paper from beneath the counter. "Take these booklets, Fred, they'll tell you more about your rights and responsibilities under the Basic Income law. If you win more than two hundred dollars' prize money in any state or national lottery or government-sponsored competition in any calendar month, *or* obtain gainful employment, *or* acquire ownership of more than fifty shares of corporate stock, you are required to notify us so that your Basic Income can be adjusted. There are penalties for failing to notify."

There was a little more he had to listen to. When at last they released him by handing over his check—he supposed it was enough to scrounge along on for a couple of weeks until the next one came, if scrounging along was your idea of life—he hurried from the office, dropping the booklets into a trash receptacle as he went through the door. He'd notify them, all right, as soon as he moved up to jobholder. The sooner he could tell them that, the better.

Since he had such a good chance for a job, there was no use hoarding his money like a miser. Two weeks' scrimp-along money could buy a couple of nights of real fun. After that . . . well, nobody starved.

A kind of gravitational pull was leading him onto a particular slidewalk, one that would carry him in the direction of a run-down neighborhood he had noticed not far from the Y. There he should be able to hit a coffeehouse bar or two. He could get some lunch there as well as anywhere. There was plenty of time before he had to meet George at the dojo. And Fred wanted to see about getting hold of some gladrags, in case it turned out tonight that Marjorie was not just teasing but was really in a willing mood. If you went to the right place and asked the right person, a few dollars could always buy a pair of plastic cloaks, thin, but stiff and perfectly opaque, folded together into a pocket-sized carton.

ART AWOKE with a start in the Parrs' guest room bed, looked at his watch, and saw that it was a little after nine o'clock. He sat up blinking. On the barren tile floor in one corner of the sparsely furnished room lay a pair of men's translucent disposable trousers, apparently used and ready for the discard. The length of one extended leg indicated that the garment would be too big for either him or George. Oh yes; Fred Lohmann had been staying here, before Rita. Conceivably Fred would know something of



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her present whereabouts, if Art could find a chance to question him. Art remembered him as a wild-looking adolescent, tall and awkward.

Before retiring Art had bought himself some disposable clothing from the block's vending machine, and now after a quick shower and beard-trim he dressed in fresh shorts and shirt. Still only a quarter after nine. While buttoning his shirt he peeked into the children's room and found the four of them still sleeping. Must have been allowed to stay up late last night, playing together. A door chimed and very shortly thereafter voices drifted up from downstairs, one Ann's, the other belonging to a man whom Art did not recognize. Standing in the upstairs hall he could understand only a stray word or two.

Going down as soon as he had finished dressing, Art turned first into the kitchen. He was liable to feel sick unless he ate something as soon as he got up. In the refrigerator he found a cinnamon-flavored protein bar, and on the elaborate new stove he dialed himself coffee. Five minutes, while the low dialogue continued in another room, and he had the indispensable minimum of breakfast in his stomach. Chewing on a toothmint, more or less ready to face the world, Art walked into the living room.

The low voices stopped. A lean, stooped man wearing a conservative transparent business jacket above his shorts was standing just inside a door that had been closed last night and which Art now realized must provide access to a lower-level garage. The man looked up at Art with keen interest, or perhaps he was only glad of any interruption.

Ann, her pretty chin somewhat higher than usual, turned with arms folded from her stance of confrontation with the visitor. "Art, this gentleman claims he's a Mr. Hall. From Family Planning. George has gone out." Her tone managed to imply that George, if at home, would have beaten this probably fraudulent intruder to a pulp, and Art was welcome to do the same if he liked.

"My name *is* Hall, and I am from the Family Planning office." The intruder had a determined voice, though not angry or flustered (Aha, Ann, have you met your match at last?), and his eyes were sharp. "I take it you're Mr. Rodney?"

"I am."

"I was hoping to run into you here. Our California office has asked us to make a routine investigation into your wife's case."

"Her case? My wife hasn't broken any laws."

"That's fine! Then if you'll tell me where I can get in touch with her, we can clear all this up promptly and with as little



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inconvenience as possible."

The protein bar in Art's stomach had suddenly gone lumpy. He supposed that criminals must have terrible chronic digestive problems. Or maybe they got used to it. He could think of nothing to say to Mr. Hall, and just stood there like a guilty fool.

Hall's determined voice kept coming at him. "I understand you didn't accompany your wife to Chicago, you followed her here?"

"I—yes, what of it?" Surely, thought Art, he had the right to refuse to answer these questions. To talk to a lawyer first, at least. But once he refused to answer, Hall's suspicions, that possibly were no more than suspicions now, would surely be confirmed.

"Mr. Rodney, is there some reason you don't want to tell me where your wife is at the moment?"

"I don't know where she is." It was Ann's fault, and George's, and Rita's too, that he had to conduct this argument in ignorance. Their fault, not his, if he got them all in deeper trouble. Meanwhile he marveled greatly at how fast the deadly pits could open beneath one's feet in the dull corridor of life.

"You don't know?" The interrogator's tone implied that Art must be a fool or a knave, or both, to hope to get away with such an answer.

Art folded his arms in unconscious imitation of Ann. "That's right."

Mr. Hall glanced toward Ann, who with her own arms still folded was obviously quite ready for him. He appeared to stifle a faint sigh, and then turned back to Art. "Mr. Rodney, our California office has received medical testimony indicating that your wife is pregnant for the third time."

"Yes, I know about that."

"We have no record that she's made any appointment with a physician to have this pregnancy terminated. And the first trimester must be nearly over."

"I, ah, know nothing about that."

"Well, I'd like you to at least give me your opinion on the subject, Mr. Rodney. Do you think your wife is planning *not* to have it terminated normally, to carry it on to parturition?"

There was no way he could admit it. "No, I don't think that," he had to say. Then he had to pause, for a nervous, choking swallow. Ann was just standing by, letting him flounder, confident that they had told him no secrets and so there were none he could betray. Triplets, but he hated her at the moment.

When he had his throat under control again he said: "I'm sure Rita means to have it terminated properly, she's, uh, probably just gone away by herself for a few days to think things over. You see . . . our psychologist has recommended against her being sterilized. After



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Paula, our youngest, was born, Rita had an IUD inserted but her body kept expelling it. She always takes her pills. I'm sure there was just a chemical failure somewhere. I'm sure she didn't plan the pregnancy. Unless it was subconscious." There seemed to be stories in the newsprints every day about apes avoiding prison sentences by pleading their subconscious compulsions. If they could do it, why couldn't she? Lay the groundwork for it now. But he was talking too much, he had better shut up.

As soon as he quieted, however, Hall was after him again. "Mr. Rodney, is it like Rita to go off by herself for days at a time? When was the last time she made a similar disappearance?"

"I . . ." He was cornered. Once he started making up a string of lies, Hall would have it knotted around his neck in no time at all. "No, I can't say it's like her," he said in desperation. "I tell you, I don't know where she is. If I knew where she was I'd be with her right now."

Mr. Hall shuffled his feet, which were no doubt tired from standing, and glanced again at Ann, and sighed once more, more openly this time. "Mr. Rodney, will you walk me back to my car?"

"There's no need for you to do that, Art," Ann put in.

"All right, Mr. Hall," Art said, since the alternative was to go along with Ann's instructions.

Ann was not going to argue with him, not in the face of the enemy. "I'll have breakfast for you when you get back," she promised, holding the door. She gave Art a ritual kiss as he went out, but offered no kiss or caress to Hall, who in turn contented himself with a barely polite pelvic thrust in her direction.

As THEY were walking down the stairs to the garage, with no one else about, Hall said quietly: "Mr. Rodney, I hope you don't think of us at Family Planning as out to *get* your wife. Believe me, we'd like to help her; I think she's a woman who can use some help."

Art was silent. They emerged at the foot of the stair into the garage. A variety of vehicles were berthed in a series of numbered, gate-protected stalls. Other areas were marked for delivery vehicles and visitors' parking. At the moment there was still nobody else in sight.

Hall stopped, facing Art. "If I can't get a chance to talk to your wife, it's going to be awfully hard for her to stay out of trouble. And you yourself can be in trouble if you're deliberately withholding information. There is the federal conspiracy law. We may not like the world in which all these laws are necessary, but it's the only world we have."

"I've been telling you the truth."

"Another thing." Hall very slowly resumed his walk toward the



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visitor's parking area. "Giving birth is a somewhat risky proposition at best—I'm sure you realize that, as the father of two legitimate children. In some of these birth-mills a full-term parturition, or even a fetiparous one, can be downright dangerous, believe me."

This time it was Art who stopped, a few slow paces later. "Even a what?"

Hall was silent. He seemed to be trying to read Art's face.

Art repeated: "Even a what? What kind of parturition, live birth, is there except full term? Do you mean premature?"

Hall continued his intent gaze at the mystified Art for a long moment, and then relaxed. "I think you and I are really on the same side in this case, aren't we, Mr. Rodney?"

"I want my wife at home with me, not getting into trouble. And I don't want the world overcrowded with my progeny, I'm willing to respect the rights of others."

"Fine." Hall was suddenly more relaxed and friendly. "Then I'd better tell you something you may not know about. Just recently there has come into use a method for removing a first-trimester fetus or embryo from the womb in such a way that it can be kept alive. The midwifer usually freezes it—"

"Alive?"

"If you can call it that. Alive in potential. It can later be reimplanted in the woman's body again, or in the body of another woman, or put into an artificial womb, and it will grow and develop eventually into a child. In experiments on animals normal young have been produced by this method for several decades now."

"Oh."

"You begin to see. Now if we at Family Planning seize a frozen fetus or embryo, our legal situation is tricky, because federal law states that if nine months have passed since conception, the fetus has become a child. The law goes back several decades to when termination of surplus pregnancies was first required in this country. Some women who were about six months or so along claimed that they were already in labor when their pregnancies were terminated by FP doctors, and there was a lot of fuss. The law is really outmoded now, but we're still stuck with it."

"I don't quite see . . ."

"The thing is, we can't legally destroy a frozen fetus unless we can *prove* it's less than nine months old. Calendar age, not stage of development, is the way the law reads. We're trying to get it changed, of course. There have been several articles lately in the newsprints on all this, and stories on television. I would have thought perhaps you would have heard or read something about it."

"I've been busy," Art said. "Not keeping up much with the news."



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Probably it was another example of his subconscious avoidance of hearing or remembering, like the exact wording of the federal conspiracy law.

"You see, with just a frozen fetus in our hands, we have a purity of a time proving its exact age. Can't even take a tissue sample for proving the parenthood, since that would constitute damage. If we can't prove it's a superfluous third, and nobody claims it, why then believe it or not it has to be regarded as an unidentified orphan child. Treated as a human being in potential, which means taking it to an orphanage. Some of these religious and so-called humanist institutions will take them right in. They're building artificial wombs at a furious pace, without permits of course, and they have plenty of money and manpower for clandestine research on freezing and revival techniques, or so it seems."

"Uh-huh."

"You may have heard something about the riot just recently in Iowa, where a Christian monastery was destroyed. I understand the ringleaders of the riot are now in jail, as they should be. Can't have people taking the law into their own hands. But there'll have to be proper legal action against those cultists too. Some of their priests were out there building cryogenic devices and freezing fetuses."

Art, without realizing it, had started walking again, on newly shaky legs. Cultists. He thought of the carven image on the wall above the children's beds. He knew Ann. He thought of the scream coming out of the woods, and he thought of Rita. "But then . . . suppose, as you say, that the fetus is thawed and put into an artificial womb and a child results. What then? Could the mother claim it?"

"Probably not without spending a prison term, and undergoing sterilization." Hall was looking at his watch. "I suppose there might be all kinds of devious means, adoption and so on. But a third live birth is still a criminal offense by the woman, no matter what subterfuges she employs. I really can't understand the woman who does such a thing. Setting aside the legal problems, anywhere that she and her husband live afterwards, the neighbors are going to be able to count: one, two, three children. You couldn't very well pretend one of them is adopted. There aren't enough adoptable children to even match the childless couples who want one, let alone go to people who have two of their own. So it'll be obvious to all that the parents had three kids, and pretty soon that third one is going to know that he or she is superfluous and unwanted by the world. That's a very cruel thing to do to a child, in my estimation."

"Mine, too."

"No, I just don't understand these women who go to midwifers."



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Hall had reached his car and now he unlocked a door and pulled it open. "There's just one more thing I wanted to mention to you, Mr. Rodney. Several times a year we in Family Planning get a massive detailed population forecast for the whole world, and for our own areas in particular; we get it right from the UN computer center. Right now the latest forecast is several days overdue; the rumor is that it's been delayed for re-checking, because it's a real shocker."

"I suppose so."

Hall got into his car, slammed the door, and then peered out the window. "I hope I can rely on you, Mr. Rodney."

"Certainly I *mean* to do all I can—"

"That's fine." With a tiny wave and a half-smile, his mind probably already at work on his next case, Mr. Hall upped his window, faced forward, and drove off.

—but I don't even know where she is. Art stared in silent protest after the car already zooming up the exit ramp.

## V

After Hall's departure, Art wandered to an escalator and rode it up from the garage, emerging just inside one of the block's pedestrian entrances. He was jogged partially out of his dazed state by Timmy and Paula, who ambushed their father as he made his way back toward the Parrs' patio. The children were munching protein bars with which they smeared his clothes. Overriding his requests for a delay, they pulled at him to get him moving on a tour of the block's central park. He gave up and went along. He reassured himself that his children were well and then tentatively questioned them about Mommy. About all he could find out was that she had said she would come back to get them soon.

The tour got as far as the nude pool before its directors deserted to join the Parr boys, who were already in the water. Art sank down on a grassy bank nearby and tried to think, now and then waving mechanically at his offspring when they clamored for his attention.

There were other distractions too. No other men were at the pool—probably most of those who lived in the block were busy this morning, at jobs or tending to their investments—but several women had come to swim. Ann was obviously not the only bluenose radical in this small community; probably people with similar attitudes tended to get into the same block-house corporation. Anyway these women came to the nude pool wearing long, loose, only dimly translucent jackets, and they swam as bare as babies, without so much as a sequin pasted on to emphasize their sex. It was hard to say which was the more antierotic, being almost



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completely covered or completely bare. Some of them cast suspicious glances at the male stranger, who in turn waved at his children to show that he had a good reason for hanging around, and then frowned thoughtfully into space. But only his face was truly thoughtful. His brain was getting nowhere.

In half an hour or so the kids were ready to do something else, and Art walked home with the four of them, reminding them to gather up their clothes. When he got back to the house he found George there, and promptly took him aside.

"George, have you seen her this morning or heard from her?"

"No, Art, I swear."

"I've got to find her. She's my wife and I have a right to talk to her."

George stood there for a while, looking glum and uncertain about it all. Then he said: "I have to agree with that."

Emboldened, Art pushed harder. "I don't want to get you, or anybody, into trouble. But if I can't find her I'll have to go to the police and report her missing. It's that important to me."

George came to a decision. "All right. After lunch you and I will go out and see about making contact."

"How about right now?"

"Just come along and we'll do it my way. After lunch."

So a couple of hours later, after Art had spent some more time with his children, and Ann had fed them all some more sandwiches, the two men went out and got on the slidewalk together, George explaining that he didn't have a car right now, what with one expense and another.

After a couple of kilometers' ride, Art saw a vast domed stadium looming up ahead of them. At about the same time, George came up from deep thought to say: "Understand, it may take a little time to find out exactly where she is. There are several people I want to talk to about it."

"Just so I get a chance to see her, before she commits any irrevocable foolishness. Where are we going now?"

"I expect one of the people will be at the ball game today. You just stand by and let me talk to him."

"All right."

Another kilometer and the slidewalk, by now fairly thick with passengers, deposited them before one of the entrances to the stadium. George said: "Let's not forget to pick up tickets. A dollar is a dollar."

They accepted time-stamped tickets from the jaws of a machine as they passed in through a turnstile. George led Art through cavernous passageways to an outfield grandstand, where they emerged squinting into the sun. A sizable crowd was filling a good proportion of the seats. The stadium's domed roof had been opened like a set of



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gigantic jaws and the people were in a good humor under the warm sun.

George chose seats high in the rear, and kept looking around him at the crowd. "I think I see our man," he said after a minute. "You just watch the game, and I'll go talk to him." George moved away.

Art watched the game, which was just beginning, and the crowd as well. The Cubs, the home team, took a one-run lead in the first inning, and gambling in the grandstand promptly became fierce and steady, conducted by arm-waves and cryptic shouts. Ushers and police ignored the betting; Art wasn't sure whether it was legal here or not. There seemed to be no bookies, no formal organization, and no wagers of more than ten dollars, but small money passed through hundreds of hands with every pitch. One of the busier gamblers was the man George had engaged in low-voiced talk, who seemed able to keep his gaming and his conversation going at the same time. They were sitting too far away for Art to be able to tell if George was learning anything. Their talk just went on steady.

So things went until the top of the fourth inning, when the Cubs blundered themselves four runs behind. The emotional climate in the stands changed radically with the score. The majority of the spectators, grown men and late adolescents who wore the gaudy codpieces and indefinable look of the jobless, lost most of their enthusiasm for betting and brooded in sullen silence. Here and there a few gamblers persisted more energetically than ever, jumping and shouting like fanatics when they won, but joyless even then.

GEORGE finished his conversation abruptly and stood up, motioning to Art that it was time to leave. They met on the moving ramp going down to street level. A number of other men were heading restlessly in the same direction, taking to the exits early. In the lines forming at the exits there was some jostling for position, and some police were standing by alertly. A huge, disheveled man standing in the next queue glared across a railing at Art and George and murmured something unpleasant about jobholders. In present company Art felt secure enough to glare right back, until the man decided he was getting nowhere and turned away.

"Three innings, dollar and a quarter," droned the Bureau of Sports agent in the booth where Art presented his ticket. Art picked up the coins that came clattering toward him from under the bullet-proof glass. Probably watching a whole game would be worth three seventy-five. He wondered if they paid overtime for extra innings.

As soon as they were clear of the stadium crowd, riding a westbound slidewalk into a part of the city Art



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had not visited before, he asked eagerly: "Did you find out where she is?"

"We're on the trail. I told you, I'll have to talk to a couple of people." George, shaking his head, turned back to look at the slowly receding stadium, its roof-jaws gaping at the sky. "I was afraid we might have a little riot. It gets bad in there sometimes when the home team loses."

Controlling his impatience, Art looked back too. "They can get paid now just to sit and watch a game and keep out of trouble. Or there are a thousand things people can do to win prizes. They don't have to be intelligent or educated, they can win by bowling or pitching horseshoes. Everyone can win a prize at something. I don't know what they want."

George faced forward again. "Did I tell you, I may be going on television? Probably not, though, I think I blew the audition."

"No." Art was surprised.

"That's where I was this morning, auditioning. Just a local station. Oh, it's a real triplet of a mess. They have this monstrous clumsy machine, made up like a woman, for a man to fight. Let's change to the high-speed walk here, the next place I want to stop is way out in a slumburb."

At the interchange, the walk they had been riding flowed briefly beside an acceleration strip. This strip was of viscous plastic that remained cohesive and hard-surfaced though it flowed like water, the circular stream of it running thick and deep and slow beside the slow slidewalk, and thin and fast to match speeds with the express. With no more balancing than it took to mount a stair, the passengers made the changeover. Once whizzing westward aboard the fast, long-distance belt, Art and George sat down on the continuous bench that moved with their new conveyance.

"So what about this television program?" Art asked, his curiosity aroused.

"It'll be garbage. They want somebody to jump through the air like an idiot and scream, and beat up this giant woman . . . There *could* be a good karate program, showing how the human mind and body can work together. I'd like to do a good one someday but I don't suppose they'd ever let me. I guess I'll do this one if they want to hire me. I can use the money."

Art had a sudden realization of the obvious: a midwifer was illegal and therefore must be expensive. Rita hadn't had much money with her. Might she have fallen into the hands of some cut-rate quack?

"George, are you paying for—Rita?"

"I'm contributing something."

"Then why must we run all over the city to find out where she is? Don't you know?"

George calmly shook his head.

For a while they rode through the



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warm afternoon without talking. The whispering rush of the express walk, shaded beneath its plastic awning, bore them at highway speed through kilometer after kilometer of the great city. They passed industrial blockhouses, and older manufacturing parks surrounded by grim fences, where machines labored night and day for Man, the master, repairing and sometimes redesigning themselves, only occasionally requiring any human supervision. They passed street after street of the two- and three-apartment dwellings in which the bulk of the city's people seemed to live. Here dwelt the great respectable mass. Here the head of the household might work two or three days a week, here the family owned stocks and bonds enough to bring some usable income, here they had success from time to time in winning prizes. Not really full-time jobholders, most of them, but that was how they saw themselves.

Vending centers flowed past, public computing terminals, streets and parking lots. A school. A park, with a young couple naked on the grass, bodies locked and working toward orgasm. A Church of Eros, whose twin towers stood like the raised knees of a supine woman, flanking the main entrance. A superhighway interchange for private surface vehicles, fallen into disrepair, with half its lanes closed by barricades, grass growing through the cracked concrete. Nearby, a terminal of the underground long-distance tube complex. More two- and three-family dwellings, row on row on row. And scattered everywhere throughout the clean and sunlit city, the fortified stone walls of blockhouses springing up.

Now Art noticed with part of his mind that the buildings rushing past were becoming noticeably shabbier; they must be approaching the western border of the city. Thinking aloud, he said: "Suppose she actually does have a child, produces a living child out of this. What will we do then? I tell myself that if it comes to that we'll just ignore what people say, or the looks we get from them. I'll do all I can to keep the third one from feeling unwanted. But I suppose he will."

"I just don't know how that would work," said George.

"And Rita. I don't know if going to jail would bother her as much as being sterilized."

After another little silence George said: "I know the thought of having that done has scared her in the past. Maybe now, though, it won't seem so terrible. She'd never have another baby to worry about, once this one is taken care of."

"If it ever is a baby." Art felt a surge of pity and grief for the unwanted third-to-be, unneeded and detested by a world already jammed. Fetus, why do you thrust with such a mad, blind drive to reach the light? Shrink back to



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nothing. Go away. There's nothing here in the world for you, that you should fight to reach it. But of course the seed could only grow where it had been planted.

"George, the Family Planning man implied that when some women go through this new method of extracting the fetus and freezing it, then they're content to have the resulting child brought up in an orphanage. I wonder if that's what Rita has in mind. To me it would be worse than having a third child with us, to purity with what the neighbors say. Do you know what she intends? She must have discussed some plan with you."

George shook his head gloomily, staring off into the distance.

"We'd adopt the kid, or something. We'd hang onto him. But it would be pretty grim, and I don't want that kid to ever come into this world. You can see how I feel, can't you?"

"I can see how you feel, and how Rita feels, too. Maybe that's my trouble, I see everybody's point of view. Even the kid who isn't born yet." His eyes flicked at Art and off again. "If abortion's not killing, what is it then?"

Being well rested and in good control of himself, Art could now have brought out the arguments with which to demolish this simplistic point of view. But he had no wish to argue with George, and anyway arguments were no good for changing someone's mind until that mind was ready for change.

THE city proper was suddenly left behind. No official boundary or sharp line of demarcation was visible, but within the space of a few blocks the view changed, as what was unmistakably a slumburb came rising about the slidewalk like a dirty wave. Art was a stranger to this part of the Chicago area, but it did not look much different from some sections of Los Angeles. Here were the endless curved rows of small houses cheaply built, falling apart at the age of twenty or thirty, but still occupied. Not only occupied, but cut and partitioned. There would be no steady jobholders living here, and not many who owned shares of stock or won more than an occasional prize. This was Basic Income territory.

A small vending district clustered around the terminus of the high speed slidewalk. Here all the other pedestrian walks were stat, as rigid and unmoving as the streets. Among the automated vendors a couple of human-attended establishments survived. One of these, a small and dingy tavern at the dead end of a block, proved to be George's destination.

The tavern did not look old, but was already rundown in appearance, sharing the neighborhood's general air of defeat. Daylight was shut out from the interior, and the artificial lighting inside was dim but violently colored. As Art's eyes



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adjusted he could see obscene words scrawled here and there on the shabby walls, and concealing garments, opaque hip boots and overcoats, crudely drawn. All in all, Art supposed, a typical BI barroom; not that he had seen many such, except in television stories. Four or five apathetic male customers perched on bar stools. Above and behind the bar, the legally required police TV eye roosted like a robotic vulture, now and then turning its glass eye on its scrawny metal neck.

The bartender raised his head, sizing up his two new customers, and fixed eyes blank as the vulture's lens on George, as if deciding he was the one who had to be dealt with.

"Couple of short ones," George ordered, resting an elbow on the bar. When two small glasses of beer had been poured, he asked: "Is Alfie around?"

"Maybe shootin' pool," the bartender grated. There was a back room. POOLHALL $1.00 ADM.

George strolled that way. "I'll just see if he's there."

"That'll be one dollar, see the sign?"

George just glanced back as he strolled. "I won't touch a cue." He went on into the POOLHALL.

The bartender hesitated briefly, then picked up the coins George had left on the bar and slouched away to tend another customer.

Art sipped his beer, which for some reason tasted quite good. He wished he knew how to talk to these people and act with them. George's and Rita's background was a middle-class as his own, but George had picked up the knack somewhere. Maybe in karate, though he had mentioned once that most of the students and practitioners were not the tough-guy type. Couple of short ones. Get tough with me and I can break your ribs—this last was only implied, of course, never verbalized or even bluntly stated in so many body-language words. He was just this somewhat undersized fellow who was not at all intimidated. What others read into that was what intimidated *them*.

There was a stir in a rear booth and a pair of B-girls materialized out of the dimness there and came flowing forward to the bar. Art felt a mild twinge of alarm. The girls' license buttons were prominently displayed on their kimonos, but the garments were probably longer and thicker and more shapeless than the letter of the law allowed. The woman approached the bar and stood there, closer to Art than to anyone else. Not that they looked at him. Their pale-painted faces were averted slightly, their mouths pinched in professional haughtiness and cool reserve. Art uncomfortably shifted his stance.

George stuck his head out of the back room. "Not today, girls," he called. "Art, get a beer for Alfie,



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and get us a booth. We'll be out in a minute."

The girls' faces relaxed into more natural scowls and they moved away, resuming some private conversation in bored voices. One pulled off her kimono to scratch beneath her bikni straps. Art bought three more short ones, and carried the filled glasses to an empty booth.

FROM the booth he had a good view of the tavern's huge television stage. For some reason the ball game was not being shown; maybe the game was already over, or there could be rioting at the stadium. The barrel-sized image of an announcer's head was reading a news story:

"This afternoon in the General Assembly, chief Chinese delegate Lu Ti-p'ing accused a neighboring government, Southern Pan-Asia, of using biological weapons against its own—the Southern Pan-Asian—people.

"Lu quoted statistics from UNIMED which indicate that deaths from uncertain causes have reduced the SPA population by nearly ten per cent during the last three months. According to the UNIMED report, most of those dying have been the elderly and the chronically ill. According to the Chinese accusation, disproportionately few of the deaths have occurred among members of the Patriots' Party, now the ruling group in Southern Pan-Asia.

"Finally the Chinese delegate expressed regret that, in his words, the SPA government has chosen such an inhumane method of trying to strengthen itself economically. Is this, Lu asked, to be the first step on a road of dangerous economic aggression?"

As if on cue the announcer's head was abruptly replaced by that of another, equally big, who with a tyrannosaur's smile read hastily through a perhaps ill-timed commercial for a Chicago vending chain. The presentation was so inept that Art assumed this was some small local station, maybe the very one George had auditioned for. Probably there were a hundred of them, though.

Art sipped his beer. The newsmonger was soon back on stage, saying: "Then it was the turn of Cao Din That, chief SPA delegate, to reply."

The enlarged head of Cao Din That now appeared on the stage of the tavern in the Chicago slumburb, where nobody but Art seemed to be paying the least attention, and his translated words were heard, categorically denying all the charges leveled against the leaders of his suffering country. Possibly some foreign government was really to blame for the surplus deaths. If so, let the aggressors beware, they would be found out shortly. In any case, UNIMED was overstepping its authority by interfering in SPA internal affairs.



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The tone of the speech became milder. Possibly the deaths were the unforeseen side-effect of a new insecticide, employed in the desperate struggle to increase food production. Also to be considered were the airborne viruses that had been accidentally freed during the recent UN police action against the Nile Republic; no one knew where those viruses might have landed, nor would anyone even admit to knowing exactly what they were. The UN was to be applauded for its prompt action along the Nile, which had liquidated some planners of biological war, but still some of the consequences had been unfortunate.

"Ah, th' world's gone t' repression," said a colorless little old man who must be Alfie, for he arrived at that moment with George. Art slid over to make room.

Alfie seized a beer, drank most of it, and went on talking. "The whole world's crazy. You know what happened the other night? Somebody bombed Vic Rizzo's townhouse. It musta been just vandals. They couldn'ta known it was his."

"That so?" George asked, indifferently. Art wondered who Vic Rizzo might be. After a few more social noises had been made, and Alfie further supplied with beer, George got to the point.

"Alf, you know the city pretty well."

"I guess I do."

"Then tell me something." George dropped his low voice even lower. "Who might a nice girl go to see, if she got kind of carried away and emotional, and wanted to finish an extra baby? She's got two kids now."

Alfie gave facial demonstrations of thought. "Married?" he asked, as if being married or single made any difference in the number of children a woman was allowed to bear.

"Yes," said George.

Alfie glanced at Art, wordlessly identified him as the worried husband, and winked at him. Then obviously pleased to be consulted, Alfie assumed an air of wisdom and began to talk. He seldom quite finished a sentence, however, and his speech was thick with allusions to people and places that Art had never heard of. Also Alf used a number of slang words strange to Art, or maybe Art was only mis-hearing them, because Alf's whisper was almost too low to be made out. All in all, the dissertation was perfectly unintelligible. George, though, kept on listening with apparent satisfaction, now and again encouraging Alfie with grunts and nods, and ordering more beer.

"SOME characters you know," Art reflected aloud, as he and George rode the express slidewalk into the east again. Twenty kilometers or so ahead, near the shore



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of invisible Lake Michigan and farther east than Art had been as yet, the unbelievable towers of the central city rose.

George grinned. "Alfie has his uses."

"I hope you found out something from him. I didn't. Do you think Rita is with one of those people he mentioned?"

George turned to look back into slumburb country, a desolate sea of rooftops beneath the mid-afternoon sun. "I think Alfie may be on the phone to Family Planning right now, trying to sell them the information that you and I were asking about midwifers. The man I talked to at the ball park may be doing the same thing. Family Planning knows what Rita's trying to do, but I want'em to think she doesn't have a midwifer yet. They can't arrest us for asking general questions. All I've been trying to do so far today is put'em off the trail a little."

Floundering well off the trail himself, Art could find nothing to say.

## VI

Art maintained a somewhat surly silence through several slidewalk interchanges. He and George were deep in the city again, moving on a fairly crowded walk that angled to the southeast, before he spoke again to ask: "Where are we going now?"

"The dojo. Fred's supposed to be there at three-thirty so I can watch him work out. And then I have a private lesson to give. Come along and watch."

"Look, George, are you going to help me find Rita or aren't you? If you can't or won't, just say so. Don't keep stalling me along."

George was unperturbed. "Just come along to the dojo. I said I'd help you and I will."

Art puffed out his breath. But he went along; somehow George's words carried conviction.

Under a sign that read PARR'S KARATE DOJO Fred Lohmann was waiting for them, holding up the front of a modest building in a small middle-class vending district. Under one arm Fred was carrying a whitish roll of what appeared to be clothing.

"Art, you and Fred remember each other, hey?" George unlocked the ground-floor door and stepped inside, waving on the lights with a passage of his hand over the switchplate on the wall.

Art's hand was squeezed. "Sure we do," said Fred, clearing his throat nervously. He towered over the two older men. "Art, how's your wife and kids?"

"Oh, fine. I guess you met Rita yesterday? Over at George's place?"

"Yeah, sure, that's right."

It seemed obvious that Fred wasn't in on the midwifery conspiracy, but still some clue to Rita's whereabouts might possibly be



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gotten out of him. Later. Right now Fred was all nervous anticipation of whatever test he had been brought here for, and George was present, raising his window blinds, checking his printout for messages, and in general opening up his shop.

The interior of the dojo was mostly one big room, about twenty meters square, and two stories high, so you could have fitted a very small house inside it. The floor was of polished wood. In the front, beside the street entrance, an area separated by a low partition from the big room contained a desk, with phoneplate and computer terminal, and a few chairs, some of them arranged as for spectators. An open doorway in the rear led to some lockers and, Art supposed, a shower. Large flags of the United States, the United Nations, and Japan were formally and correctly displayed together on one wall. The general impression was of functional orderliness.

George and Fred each bowed, not deeply or very ceremoniously, toward the flags. Then they slipped off their sandals and padded back toward the locker room, bare feet seeming to grip the floor familiarly. "Make yourself at home, Art," George called back.

Art put his own sandals into the convenient rack by the front door, then wandered about looking the place over. The smooth floor was not slippery to bare feet.

Something here reminded him of chess. He wondered if it was the square arena of polished wood, or some faint scent of conflict lingering in the conditioned air. Glancing up, he saw four android fighting machines hanging like felons near the high ceiling, above the center of the open floor. He looked about and spotted their control console standing near the desk. Feeling a technician's curiosity, Art walked over and looked at the controls.

George and Fred soon emerged from the locker room, clad in loose whitish trousers and jackets, only moderately translucent, and wearing athletes' codpieces of hard protective plastic. "I guess I just *lost* my own belt someplace," Fred was saying, meanwhile accepting a brown belt, an overlong strip of tough-looking cloth, from George's hand.

GEORGE looped a black belt twice around his own waist and knotted it in front, and the two of them began to limber up, swinging their legs like ballet dancers, crouching and twisting and stretching their bodies to unlikely extremes, shaking wrists and ankles as if their hands and feet had fallen asleep. Art stood watching with some interest.

"Ready?" George asked, after a few minutes of this. "Let's go five-time sparring, then." With nearly the full length of the floor clear behind him, he drew himself up facing Fred and they exchanged



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bows. Then they stood, each with arms slightly bent, hanging down in front of his body, fists loosely closed. "You first," George directed.

Fred snapped into a tenser, much lower stance, poised to attack, his right fist cocked near his hip, left arm curved before him in a blocking position. *"Jo-dan!"* The word came out in an explosive breath.

George grunted: *"Uhss!"*

Fred sprang forward and advanced in long deliberate strides, and with each stride one of his fists drove like a piston at George's chin. George flowed backward easily, staying just ahead of the punches, pressing each of them aside at the last moment with an economical open-handed block perfectly timed against Fred's extended arm. His short legs gracefully matched the speed and rhythm of the long ones driving at him. What he was doing looked quite easy. After he had gauged the first punch, George's eyes moved downward between punches, appraising the movements of Fred's feet and hips.

With his fifth punch Fred halted and stood motionless, arm still extended. Instantly George came blurring back at him with a counterpunch that was evidently an expected part of the ritualized combat; he snapped it to a halt a centimeter from Fred's unmoving chin.

Now it was Fred's turn to draw himself up straight, while George crouched for the attack.

*"Jo-dan!"*

*"Uhss!"*

George charged. Somehow he made his shortness look like an advantage. The sleeves of his white jacket snapped audibly with each punch. Fred retreated stiffly and hurriedly, parrying with heavy blocks that looked comparatively awkward. When it came time for his counterattack he essayed an arm-grab and kick to the stomach which George did not attempt to avoid. The snapping kick just touched George's jacket, as it was evidently supposed to do, but George still seemed to find it unsatisfactory. "Try again," he ordered.

Fred went through the grab-and-kick again. George said nothing. Art got the impression that Fred was failing his test.

George exchanged bows with his opponent, and turned to Art. "Art, switch the andys on, will you? The console by the desk."

Art found the power switch. There came a whispering of cables up above, and the four androids started to descend, hanged men coming down for vengeance. Their wire cables lowered them slowly, as their still-blind faces turned this way and that and their plastic limbs began to quiver and stir. By the time the androids' feet had touched down on polished wood, their legs had life and balance enough to let them stand.



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The cables detached themselves and were quickly reeled up out of the way by the overhead machinery. Four men of about average height were left standing in the middle of the floor. Their heads and hands and feet were tan, the rest of their bodies white, as though clothed in beltless karate outfits. At the crotch of each appeared a small, formalized codpiece-bulge. Their tan faces were featureless except for small recessed eye lenses and flattish dummy noses. Like superior creatures lost in their own proud thoughts, they stood with loosely hanging arms, ignoring the three real men who watched them.

George, coming over to the console, called back to Fred: "Want to run through *heian* number four?"

Fred shrugged. "Okay." He frowned at the man-like figures, as if hoping to intimidate them.

The four androids were warmed up and fully active now, and as George set up their controls they obediently arranged themselves in the center of the floor, facing one another like four cardplayers looking across a large square table. Each was crouched in the same attacking position that the men had used for the ritual sparring.

"You don't fight all four at once, do you?" Art asked. "I've seen karate on television a few times, but I confess I never paid too much attention."

George dismissed television karate with a mere lipcurl of contempt. "What speed do you want, Freddy? How about Three or Four?"

Fred flushed slightly. He stood with his hands on his hips, swinging his legs again. "I can handle One-point-five, or Two."

After a moment George said: "Try Two-point-five, then," and set a dial. "Better get a helmet."

"Okay." Fred trotted to the locker room.

ART was interested. "Then he is going to fight all four at once."

"Just in a kind of formalized way, a pre-arranged exercise. They come at you one at a time, and anybody who has some training and who has memorized the moves of the particular *heian* can do it. If he keeps his nerve. And if the speed's set low enough. He wants to do it pretty fast." For a moment George's face said openly: It's his funeral.

Something about the fighting machines fascinated Art. The way they stood there on the polished wood like outsize chessmen, waiting for an act of human control to impel them to ritual battle. He asked: "Is it all right if I take a closer look?"

George glanced at the controls. "Go ahead."

Art padded over to the androids. They did not seem to notice him, as they waited with impassive poise. If you order us to punch and kick you, Lord Man, so will we do. Art



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peered into dull lens-eyes and wondered what image they made of him. With a cautious finger he touched the plastic knuckles of one cocked tan fist. Not as hard as the proverbial rock, but not what one would call safely padded, either. The fingers of the hand were not really separate, but only indicated by grooves in the one plastic piece.

"Feels as if it could kill you."

"Not likely, they don't really hit like black belts." George smiled briefly. "Does sting a little, though."

"You've been hit, then."

"Oh, sure. Not seriously. Yes, these things can be dangerous. We sometimes put big padded hands and feet on'em for novices. But if there's no real element of danger when you train, you can't really train properly." He glanced toward the locker room. There came the sound of a toilet flushing. "Fred's no novice. But he's nowhere near as good as he's been telling me he is. I just can't hire him now."

"Then why—?" Art gestured at the androids.

"Oh, I owe him a full fair tryout, I guess. And he's got good potential if he'd settle down and practice every day."

Fred came back, fitting on something like a fencer's mask. "I found a face protector. I like it bettern a whole helmet."

"All right," said George, standing by the console.

Fred moved in among the androids, and oriented himself carefully at the center of the space between them, where he was the focus of all their lenses. He drew a deep breath and then stood up relaxed. "Ready."

George touched a red control, and instantly bright red warnings glowed into life in the eyes of each mechanical figure. Somewhere a small repeater chime began to sound, one, two, three, four, five notes and the android at Fred's left lunged at him with a punch too fast for Art to follow. Fred was ready though and his left arm snapped up to block the attack while his right hand came whipping around edgewise to hit home like a hatchet on the tan plastic neck. The aggressor machine was sent staggering back. Meanwhile another was already charging.

Each android charged in turn, was beaten off, reset itself quickly, and in its next turn came back to the attack again, aiming another blow or kick at Fred, or grabbing at his jacket with clamplike fingerless hands. About half a minute passed, while Fred piled up points.

Fred spun from side to side, defending himself with vicious blocks, counterattacking with fists and feet and elbows. His face was rigid with concentration—or was it fear and hate he showed? He reached out and pulled down an android's head, smashing the blank uncaring face against his driving knee. Again he spun around—



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Not quite in time. A savage punch glanced off his skull, and down he went.

Art moved with an electronic technician's instinct for the power switch, but George's hand was there already. For an instant the androids hesitated, looking for fair game. Then their eyes died and their bodies fell clattering to the wooden floor.

Fred was rolling over on the floor, gasping and moaning, clutching at his head. Art and George went to him. He rolled just as Art bent down, and Art's hand was besmeared with a drop of Fred's blood.

"They changed speed!" Fred sat up, dripping blood onto his white jacket. "I almost had'em, and then something went wrong . . . ah, triplets, that hurts! I swear they changed on me . . ." Fred was practically sobbing with exertion, pain, defeat.

Having played chess against computers, Art thought that perhaps he understood Fred's feelings. But since he had risked no blood against the chess computers, Art said only: "Lie still, I'll get a towel." Fred's scalp was torn but still the damage didn't look too serious.

George stayed with the victim, gently getting his face-protector off, while Art went to the locker room and found a towel and also picked up a first aid kit that hung there on the wall. He had just gotten back to the disaster area when the street door of the dojo opened and a tall man came in. This man was well dressed in translucent shorts and business jacket, and had dark skin and Oriental eyes. As he was starting to bow to the flags he noticed what was happening, and immediately slipped off his shoes and came across the floor.

"Have an accident?"

"Oh, hello, Doc. Yes," said George, getting to his feet. Fred also started to get up, then sat back on the floor as the man who had just come in bent to look at his torn scalp.

Accepting the towel from Art, Doc dabbed around the wound. "This looks like it'll need some glue. Ivor, fetch my bag in from the car, will you?"

Another man, youngish and of undistinguished appearance, who had followed the doctor in and then had remained uncertainly near the door, gave a little salute with his fingers like a chauffeur or a servant and then ducked out.

"Doc," said George, "this is Art Rodney, my sister's husband. Art, this is Dr. Hammad."

With a look as of recognition, the doctor nodded, and reached to shake Art's hand.

George said: "Art, when you have a chance, you can consult the doctor about your problem. He's your man."

TO BE CONTINUED



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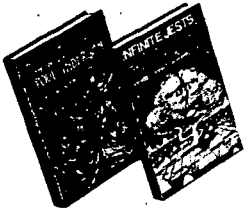


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# SF EAST

# AN SF SAFARI TO REDLAND

## FREDERIK POHL

EARLY in March my phone rang. Vienna was on the line, the U.S. Embassy: "Would you consider coming to Eastern Europe to speak on science fiction for the U.S.I.A.?"

I won't lie to you, this is not the sort of thing that happens every day at our house. But it seems to be happening more in the last few years than it used to; in the recent past I've accepted similar offers, from one government or another, to visit Italy, Japan, Brazil and a few other countries, not to mention the usual run of speaking engagements for schools, corporations and institutions. I am not alone in this. Over the past decade I've seen Brian Aldiss, for instance, any number of times; and with the possible exception of London, I don't think we've ever run into each other in the same city twice. This is almost as true of my long-term friendship with Arthur Clarke, Robert Silverberg, Robert A. Heinlein and half a dozen others. We are becoming a pretty peripatetic lot, we sf writers.

All this traveling has been educational to me: it has taught me that sf people are a breed apart. Sometimes the color of the skin is different, or the shape of the eyes. Often we have trouble with languages (how nasty it is of everyone else not to speak English!), and almost as often our governments don't get along very well. But the people themselves are never different. The science-fiction fans, the editors, the writers, the artists—they are always and everlastingly the same; and I have felt more at home in Nagoya or Montreal with my own kind than I usually do with my neighbors next door. The qualities that interest you and me in sf here in America are the same qualities that interest all those other people in it, too: We are of one blood, you and I; and the culture shock of a different nation-



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ality or tongue lasts half an hour at the most.

Nevertheless, Eastern Europe was something special. I had only visited that whole part of the world once or twice before, and very briefly. So I didn't think very long; I said yes, and began packing.

The statistics: I was gone a little under a month. I gave eight formal lectures, participated in eleven round-tables, gave twenty-one TV, radio, newspaper and magazine interviews and took part in something like thirty "other functions," ranging from a meeting in a publisher's office to an all-night drinking party in a Soviet night club. I don't remember all this; I'm quoting from a summary the State Department made for me. I especially don't remember the Soviet night club, or at least not all that clearly. It was a hard evening.

What I do remember is a little chaotic and disconnected, in the form of notes I jotted down on airplanes and trains and while waiting for a car to pick me up; and here it is:

## BELGRADE, YUGOSLAVIA

The Yugoslav publishing industry has a lot of problems that Americans don't face, and many of them come from the sheer difference in size. Yugoslavia is not a very big country to begin with. And it has four—count 'em, FOUR—official languages.

Nevertheless they do have a considerable amount of publishing, and quite a fair amount of that is science fiction: hard-cover books, paperback books and even magazines.

The magazine is particularly interesting. It is called *Galaksija.* It is not related to the American *Galaxy,* but is a sort of young people's popular-science magazine. Every month they devote their centerfold to one or two sf stories, usually translations from foreign writers: Henri Slesar, Anatolij Dnjeprov, Brajan Oldis, Artur Klark, Frederik Pol, Deni Plahta are common bylines. The editor is a really fine fellow named Gavrilo Vuckovic. He started *Galaksija* a couple of years ago with a circulation of 5,000 copies; it is now 50,000 and they expect 100,000 quite soon. So they are going to spin off an all-sf magazine, they hope, maybe late this year.

You can move around quite freely in Yugoslavia, but tourists do encounter a few problems now and then. For example, there is Yugoslavia's answer to the Pentagon, the building called The Gorges. This is Yugo Army HQ, and it got that name because the architect designed it to look like the mountain gorges where the Yugoslav partisans fought against the Germans in World War II: jagged building edges cantilevered partway across one of the main streets of Belgrade.



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It is interesting looking, so tourists often stop and take pictures of it, and then they get arrested if a cop sees them. Photographing Army installations is a crime in Yugoslavia. (There are no signs warning you against it, either.) A foolish law? Sure. You know that and I know that. But the police, they don't know that, so they arrest you.

– Esperantists: The Belgrade Esperanto Association is at 42 Marsala Tita.

The thing to remember about the Yugoslavs is that they have spent most of their history being conquered and fighting themselves free again. If the city of Belgrade makes it through to the end of this year without being occupied by any foreign army it will be, someone told me, the first time since the Romans invaded that they have managed thirty consecutive years without some foreign army running their city.

Politically they are wise as wolves. One of the favorite strolling and playground parks in Belgrade used to be a Turkish fortress. Kids ride the merry-go-round where the Turks used to impale Serbs on sharpened stakes, and leave them there so their screams would notify the other Serbs who was boss. All the Yugoslavs know all about it, even the little kids. For two thousand years someone or other has almost always been shoving a sharpened stick up their asses. When no outsider appeared to do the job they did it to each other: Serbs to Croats to Slovenes to Macedonians to whoever. They are wary, skeptical and outspoken. They respect both USA and USSR, but don't trust either. I like them.

It surprised me—in view of this bred-in wariness of theirs—to find they liked me, too—more accurately, it surprised me that on very short acquaintance I found I was being given more warmth and trust than I had any reason to expect. Then someone explained it to me. The acquaintance was not short at all. The Yugoslav sf readers had known me very well for a good many years, as they know a lot of Western sf writers, through our published work.

Principal sf book publishing house is called "jugoslavie," and they bring out a nice-looking line of hardbounds in uniform black-and-white laminated plastic covers: *Brave New World, The Space Merchants, 1984,* Blish's *The Seedling Stars* and other by English-American authors, plus writers from France (Vercours), the USSR (the Strugatsky brothers) and elsewhere. There does not seem to be any real native science fiction in Yugoslavia. A few writers have tried it, but none have been translated into English, and the locals spoke politely but not enthusiastically about their work.



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Nearly every sf book is available, at least in small quantities, in imported editions, usually English Penquins or French paperbacks. I assume there is some sort of censorship, but it does not seem terribly strict. I saw everything from Solzhenitsyn through karate manuals to raunchy German nudie magazines freely on sale, in general publishing categories, and a wide assortment of sf. They are all in foreign languages, but that doesn't make as much difference as it might in, say, the U.S. Nearly all educated Yugoslavs appear to speak at least two languages well, and I have met some who were fluent in eight or ten.

Belgrade names its principal streets after great revolutionary leaders of history, including that great American, Dzordza Vasingtona.

One of my public lectures got canceled for political reasons. It wasn't banned, exactly. It was just that there was some sort of unclear directive, and the sponsoring authority decided to play it safe and call the lecture off. Another, under exactly the same directive, went off freely and to a large audience.

That was in the Student Cultural Centre—a snappy looking building out of a 1930s Astaire-Rogers movie, that before the war had been a Royal Yugoslav Army officers' club. The audience was nominally "youth," although I saw at least four or five men with actual long white beards, and it went very well, especially in the discussion period that followed.

This is a major difference between Yugoslavia and other East-bloc countries: the Yugoslavs are willing to get up and talk in public. The discussion was a lot like any American college or sf-club rap session, including impassioned debate on New Wave vs. Old. One student made a 15-minute impassioned speech in Serbo-Croatian denouncing me for my invidious attack against Stanley Kubrick (I had said that in my opinion the last third of *2001* was a meaning-free light show plus some stale Jean Cocteau surrealism; I have said the same thing to American audiences, and gotten the same response.) For a moment it felt like a lynch mob forming, and everybody was trying to talk at once.

Attendance was 98% male. None of the few girls present took any part in the discussion, although at my press conferences several of the reporters were pretty young girls, at least one of them a red-hot fan.

There's a handsome mountain called Avala near Belgrade; people go there on one-day excursions. It has a very modern TV tower, and a celebrated monument to the Yugoslav war dead. It also has a small plague to the memory of Soviet Marshal Zhokov, who died there a



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few years ago when his plane crashed into the mountain. The guide books don't say much about the plaque. Every Yugoslav knows all about it, though. When Zhukov decided to come to Belgrade on a state visit the Russians insisted on putting their own air traffic controller in the airport tower, and the poor fellow got mixed up between feet and meters in giving landing instructions. He wound up guiding the plane in about fifty feet under the runway. The Yugoslavs are powerfully grateful the ATC was a Russian. The ATC himself, of course, probably hasn't got that much to be grateful for.

Yugo TV has sampled most of the American science-fiction programs, without any of them being very popular. It surprised me that Star Trek didn't go bigger. With all the Trekkies in the U.S., I confidently expected at least *some* mad partisanship anywhere in the world the series appeared . . . but the Yugos (remember?) aren't much given to wild enthusiasm. The ones I talked to about it shrugged and said politely, "Perhaps twenty years ago it would have been more interesting." So it ran four weeks and that was that.

I was in Belgrade during the Tenth Party Congress, which meant the hotels were full of Communist Party Delegates from all over the world, even places like San Marino, and four or five times a day the main streets would be closed off so that some big wheel, usually Marshal Tito, could drive by at ninety miles an hour. You can always tell when it's Tito, because his private ambulance is always in the motorcade. He is 82, and that week he was made President of Yugoslavia for life.

I said delicately to a Yugoslavian friend that making a man of 82 life president was not quite as far-reaching a step as with a man, of say, half that age. He said, just as delicately, that that point had not been lost on anyone.

Yugoslavia has its own science-fiction film festival, more or less competing with the one every year in Trieste, Italy, right across the Adriatic. Yugoslavia's is "biennial," which means whenever they can afford to put it on. The next one will likely be in 1975. It will be held on the Adriatic coast, with the most marvelous mountains and bays you've ever seen . . . and the most terrifying German drivers of Porsches and Audis, down from Munich for the weekend and determined to make the round trip in record time.

Yugoslav food is good, at least up to a point, but the best dishes are native. If you don't have an interpreter, you can always fall back on Yugoslavia's answer to the hot dog, What's-Its-Name-10. That isn't its real name, but it's all you



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need to order it. It looks like ten small sausages, tastes somewhere between a spicy hamburger and an ungreasy hot dog and is always served with plenty of chopped raw onion. Very good, especially if you don't plan to breathe on anyone. Its special virtue is that you don't need to know its name. It is always served 10 pieces at a time, and it is the only dish that is always served that way, so whenever you see Something-or-Other-10 on a Yugoslav menu that's it. Just point to it and enjoy.

The State Department offered me all sorts of visual aids and stuff to help dress up my tour. I said, "yes, thank you" to everything, and that was the last we heard of that. Except for the films. They asked me what films I thought would be of interest in Eastern Europe, mentioning that their own researchers had suggested *Fantastic Voyage, Forbidden Planet, Silent Running* and *The Thing*. I said with great tact that these were all fine films, but not exactly the newest and most exciting. I recommended *2001, Sleeper, Westworld* and several others.

So we got *Fantastic Voyage, Forbidden Planet, Silent Running* and *The Thing*.

## The Basic Lecture

At least I knew something about each of the four films: the handicapped children who had played the robots in *Silent Running*, the background of *Forbidden Planet* and the subsequent adventures of Robby the Robot, the making of *Fantastic Voyage* as it had been told to me by Jerry Bixby, who wrote the script. And I was happy to tell them the inside story of *The Thing*. Time was when the late John W. Campbell wrote a truly marvelous science-fiction story. It was called *Who Goes There?*, and it has been voted the most famous science-fiction novella of all time, and it deserves it. *Who Goes There?* took place on the South Pole, involved a creature from outer space who could assume any shape he chose, even yours or mine, undetectably, and was not only rattling good adventure but contained much meat for philosophizing on questions of identity, good and evil and all that. It was really a fine story, and it would have made a marvelous movie.

A producer who read it realized this, so he bought it. He then turned it over to a script writer. Who made some changes.

It had been at the South Pole; he changed it to the North Pole. It had been about an alien who could assume any shape; it now became about an alien who had a very specific shape: he looked like a giant, man-eating carrot. And all the thought and insight into identity and reality were dropped in favor of one of the dumbest boy-



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girl stories I have ever seen, plus a lot of people being hit over the head. And he put it all together and called it *The Thing* (short for *The Thing from Outer Space*).

I do not want to give you the impression that I dislike *The Thing*. That would be a wrong impression. I *loathe* it. For one thing, I had to see it three times in three weeks; and you don't know how bad a film is until you watch it with a bunch of people who don't understand the dialogue and have to get by on the visual story, which in this particular film hardly exists. For another, even if it were a good film I would resent it. It is a travesty on *Who Goes There?*, which could have been a superb film and now, because *The Thing* was made, will never be a film at all.

I also told the Eastblockers about what was happening in current American science fiction.

To illustrate, I told them about three different, brand-new books—two of them so new that they haven't been published yet, although they will be very shortly. I selected the books with some care, first because I consider them fine books, second because there is very little chance that any of them will ever be published in any of the Eastbloc countries, and yet they signify to me some of the most interesting new directions in sf today.

One was Samuel R. Delany's mammoth new novel, *Dhalgren:* a counter-culture story about a strange city somewhere in America, where some inexplicable disaster has taken place. *Dhalgren* is the most sensually explicit sf novel I remember reading. It isn't porno; but it is naked, nothing is fudged, nothing is concealed, everything is explored.

The second was Joanna Russ's *The Female Man:* a brilliant para-time novel about women in three parallel worlds, and a tract for women's lib . . . so good that I admire it immensely, although I have the bad luck to be a man.

The third is Ursula LeGuin's *The Dispossessed:* an interplanetary socio-space opera, beautifully written and peopled, taking place on the worlds around a distant star after the Earth has all but destroyed itself. It too is a tract—*for* a sort of libertarian anarchy, *against* Big Government.

I do not believe Eastern Europe will see very much of these books. The LeGuin is, I am sure, politically unacceptable. So, in a different way, is the Russ: the women's liberation movement does not exist anywhere in Eastern Europe. It is not allowed to exist; official government wisdom decrees that it has already attained its objectives, under their laws. And the Delany is the least publishable of them all, by Redland standards. Socialist countries are less sexually tolerant than Queen Victoria ever was.

I also told them about as many



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other Western writers as I had time for. There are only about half a dozen living Western sf writers who are fairly well known through the socialist countries. I'm one, mostly on the basis of three or four very widely translated books and stories like *The Space Merchants, Tunnel Under the World* and *The Midas Plague*. Ray Bradbury, Isaac Asimov, Arthur C. Clarke, and at most one or two others complete the list. Of people like Larry Niven, Andre Norton, Frank Herbert, even Robert A. Heinlein they have heard very little; so I tried to tell them, too, about the writers I thought they *might* publish . . . especially as most of the Eastbloc countries have now joined the International Copyright Convention, and presumably will start paying for new books in real, globally spendable currency.

When there was a general audience (as distinct from members of the Writer's Union, journalists, etc.), I also tried to tell them something about the weird and wonderful world of American science-fiction fandom, with its conventions, fanzines, feuds and enthusiasms.

But I don't think they believed me.

The hardest thing for me to get across in this whole series of encounters was that there are no answers to questions like, "What does American science fiction think of the future?" or "How does American science fiction view political questions?" Over and over I kept repeating that we are a bunch of stubborn individualists, and what is true of Delany is nowhere near true of Niven, Heinlein does not map against Bradbury, etc.

I am not sure they believed me there, either. To some extent I think many Eastbloc sf writers cannot imagine a society in which there is not a party line. And I suspect that some of them would be uncomfortable without the guidance it provides.

## Bucharest, Romania

Bucharest is a beautiful city. Looks like a clean Paris. You can live like a king in Bucharest, if you have the money.

I thought the restaurant food was awful, but I am told that is because I never got far from the hotel except to go to private homes for meals (which were great.) Some of the specialties are good. A favored fish is called "Crap," so when you pick up a menu you are likely to see four or five different kinds of crap on it. Tourists like to buy canned crap to take home for gifts for their friends. I didn't do this. I've never liked the idea of carrying a lot of crap around.

The Romanian Writers' Union laid on a special round-table meeting for me with their Science-Fiction Section. It was a full-dress af-



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fair: coffee, wine, cakes and the Romanian equivalent of slivovitz. The long table was loaded with Romanian sf: about a dozen original novels, another dozen short-story collections, plus odds and ends.

They also have translated a fair amount of Western sf, but nowhere near as much as they would like. The reason is commendable. Romania is dollar-poor; they try to keep their foreign policy and their economy independent of Moscow (El Al flies into Bucharest, and Romania kept up diplomatic relations with Israel all through the disturbances), and so they devote most of their export earnings to heavy machinery for industrialization. On the other hand, they don't publish without paying, as Certain Neighbor Nations have been known to do. When they can find a way to pay for more, they will publish more. They are, I think, a likeable lot. (But it may be that I am an easy mark: I've never been in a country where I didn't find people I liked a lot. Nor have I ever been in a country where I liked the government very much . . . including my own.)

The Secretary of the Writers' Union, Ion Hobana, is himself a science-fiction writer of considerable distinction. He is a handsome, distinguished-looking, cordial, intelligent man somewhat resembling Philip Jose Farmer. He has traveled widely, has read everything of any importance in American and in fact world science fiction and would be an asset to any writers' or publishers' group anywhere. He, through the Writers' Union, does a lot to encourage new sf blood in Romania. Last year they had a nationwide contest to discover new talent. "Several hundred" amateur stories were entered, each with the names removed to give each a fair chance. About forty were considered promising enough for the final round; and the winner was a young man named Mircea Oprita. They tell me he writes extremely maturely and well, and I hope somehow to find a way to get some of his work published in the U.S.

You don't have to belong to the Writers' Union to get published. It is a little bit like the SFWA: after you've published a few stories, the Union will probably invite you to join. Then you get the benefits: protection on royalties and subsidiary rights, opportunities to use the club facilities, use of Union-owned vacation hotels, etc. I did not see these in Romania, but if they are half what they're cracked up to be I would like to join that union.

After I spoke at the Writers' Union roundtable there was quite a lengthy and varied discussion. One man got up and made a lengthy rejoinder in abstract, metaphysical terms, which appeared to concentrate on the subject of The Meaning of SF Considered as Mythopoeia. When he was finished several of the writers present immediately said,



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"That's *your* opinion," and one said the Romanian equivalent of "Bullshit."

Made me feel right at home, that did.

The place in Bucharest you shouldn't photograph is the headquarters building of the Communist Party of Romania. There is no particular reason that you would want to, except that it happens to be right behind a pretty church and park. The cops lurk in the park.

I saw my only Eastbloc fanzine in Romania.

Throughout socialist Europe all printing facilities, including mimeograph machines, are all state-owned, and it is not advisable to try to set one up in your basement. So all publishing is official. The fanzine, named *Solaris*, gets around this by using the mimeo facilities of a university. It is published, edited and written by students.

I am not very sure of its contents (anyone who reads French, Spanish or Italian can make out a few words of Romanian, but in my case not enough to have much confidence), but they appear to be entirely fiction; no articles, no columns, no fan feuds, no ads for Star Trek posters.

I asked the American Embassy in Moscow to wire me a copy of my Russian travel plans via the American Embassy in Bucharest. They did, right off. Unfortunately somebody along the line marked it "classified," so they couldn't show it to me.

A Romanian translator is now finishing up a version of J.R.R. Tolkien's *The Hobbit* for immediate publication. The same translator did Salinger's *Catcher in the Rye*, which sold out nationwide in twelve hours. They expect Tolkien to sell out just as fast.

The University of Bucharest maintains an Institute of Futurology. I had a pleasant meeting with two of their head persons. They were very interested in western forecasting ("primarily, of course, in methodology and validation processes; not, of course, in political or ideological matters," one of them spelled out) and I promised to put them on the mailing list for the World Future Society's 1975 General Assembly in Washington.

Their basic approach to forecasting is analytical and mathematical. It so happens that I consider this approach hopelessly formal and sterile. I explained this to them, and they courteously inclined their heads.

## Flashback to Tokyo, 1970

I looked forward especially to going to Moscow, because I have close personal friends there, fellow



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veterans of the Japanese International Science-Fiction Symposium of 1970.

That was a marvelous bash. The Japanese had imported a selection of foreign writers: Judith Merril, for Canada; Brian W. Aldiss, England; Arthur C. Clarke, delegate for the world at large (but principally Sri Lanka, as they have now taken to calling his home base of Ceylon); myself for the U.S.

And there was also a five-man Soviet delegation, headed by a handsome, cosmopolitan editor named Vassili Zakharchenko. My wife and I had happened to meet one of the other Soviets, a teacher-critic-historian named Yuli Kagarlitski, in London a few years earlier, and found him delightfully humorous and well informed. Otherwise East and West were total strangers. It was like a miniature U.N. We each knew the members of our own bloc very well, and looked with suspicion and curiosity at all the strangers. We tended to huddle in our own groups and peer perplexedly at the others: The western sf people on one side, the Soviets on the other and the Japanese huddling worriedly in between.

It looked like being a sticky week.

It did not begin particularly well, either. Arthur Clarke gave a keynote speech, quite formal, on the challenge of space. Vassili Zakharchenko gave an equally formal address on socialist realism in sf. Considered purely as lectures, they were up to the very high professional standards of excellence of both of them; but considered as first tentative steps to friendly association, they didn't do much. For one thing, the translation problem was acute. The Japanese had wisely provided two sets of translators: one fluent in English, the other fluent in science fiction. It didn't solve the problem, but it certainly eased it. But Zakharchenko chose to speak in Russian, fairly enough. So their official translator, a pretty girl who was part of the delegation, first rendered his Russian into Japanese, and then the Japanese teams did them into English. It all took forever, and by the time they were finished there was not a great deal left of Zakharchenko.

Also it was a time when international tension was pretty high. Pingpong diplomacy had not yet started. China was the wild card in everybody's hand. Several of us in all three groups were old enough to have been in uniform in World War II, and it was sort of disconcerting to shake somebody's hand and realize that if I had happened to encounter him twenty-five years earlier it would have been our mutual duty to kill each other. And above all the US and USSR, like the Lion and the Unicorn, were still cold-warring for the crown of the world.

Running any kind of science-fiction conference is a chancy busi-



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ness, since so many of us are prima donnas. I really admired the courage of the Japanese. Not only were they facing up to all the usual problems of logistics and personalities, but they must have felt they were running a very real risk of starting World War III.

But then, after the formal ceremonies, a marvelous Japanese writer named Tetsu Yano took over. Tetsu is a jolly, bright man who designs remarkably innovative advertising displays as well as writing science fiction. He announced that he was master of ceremonies for the remainder of the evening, and instructed us all, all eight or ten Russians, Ukranians, Canadians, Americans and British clumped restlessly on the stage, that we would each have to do a vaudeville turn. Arthur Clarke was required to do a South Sea Islands hula. Zakharchenko was instructed to give a three-minute speech in Japanese. Judy's assignment was a talk on the joys and perils of being a grandmother. The Ukranian sf writer sang a Ukranian folk ballad—no one understood a word of it, not even the other Soviets, but it was obviously a funny little song. My wife, Carol, was asked to assume that I had vanished into hyperspace and she had to choose her next husband from among the couple of hundred people in the room. We all did our silly, amusing, good-natured little bits. And all of a sudden the air was let out of all our stuffed shirts. We were all giggling like fools together, and the symposium was alive and well at last. For the next week or ten days we lived in each others' pockets, drank Armenian brandy and American Coke together, sang, strolled, lectured, explored: we became a family.

So we have all had a very special affection for each other since then that transcends personal, political and national differences; and that is why, among other reasons, I was looking forward to Moscow.

## Moscow, USSR

Moscow is not only the capital of the USSR, it is its biggest city, the headquarters of its publishing business, the center of everything and the place where every Soviet who doesn't live there wishes he did. It is where the Action is.

To an outsider, it isn't a particularly endearing city. It is monumental rather than beautiful, huge rather than appealing. Most of the way it looks is due to Joseph Stalin. He lived there, and he liked to decorate his home in styles that appealed to him. What appealed to him was mostly heroic statues and peculiarly gingerbready skyscrapers, dotted all over the city, in the style that is called Stalin-baroque.

The celebrated Moscow subway is everything that has been claimed for it: clean, beautiful, spacious, fast, efficient and cheap—seven



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cents, to go anywhere in the city. And in the last few years Moscow has filled up with cars. The Soviets imported a whole auto factory from the Italian Fiat people, and the result is that on the way to the airport leaving Moscow I was caught in an authentic and wholly unexpected Moscow traffic jam.

The public face most Muscovites wear is dour and withdrawn. In private they are like anybody else, or a little jollier.

The USSR does not maintain any real science-fiction magazine, and has no immediate plans to publish one. However, several of the major magazines publish sf (even *Literaturya Gazetya*, the classiest literary weekly), and one or two of them publish it regularly.

One of these is a young people's science and handicraft magazine called *Teknika-Molodezhi*. The editor is my old Japanese-band-of-brothers friend Vassili Zakharchenko. He publishes some sf in every issue, both because he likes it and because the readers do. My entourage and I paid a ceremonial visit to their offices. (My entourage consisted of a State Department official and a Russian translator; later on the Writers' Union added a companion-cum-chaperone, and from time to time there was also a driver and some local dignitaries. It was a little like being in a parade.) As *Teknika-Molodezhi* had just published two of my stories, they ceremoniously handed me a brown-paper envelope containing 54 rubles and 63 kopecs. So I at last had my first taste of Moscow Gold.

(I innocently inquired what had become of the royalties on the various other books and stories published in the Soviet Union over the past decade or so. The answer was translated very carefully, but I do not think I understand it. It had something to do with a statute of limitations; Moscow Gold is fairy gold, it appears, and if you don't pick it up in three years, it melts away.)

The publishing house that owns *Teknika-Molodezhi* also publishes a number of science-fiction books, as well as a lot of everything; it is a big enterprise, with a circulation of six million for the magazine alone. The editor-in-chief is a woman of about fifty, very sharp and understanding, who wants to do more science fiction, and probably will.

Moscow restaurant food is awful. (It is better in other USSR cities, for some reason.) Most of it is imitation-cosmopolitan, and even the Russian national dishes are spotty. There used to be a Chinese restaurant in Moscow that was highly recommended. It is still there, but not so highly recommended; the menu has gone all queer. Apparently during the problems with China the chef went home.

The best places to eat in Moscow



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are private or organizational: the union clubs.

The House of Journalists has the reputation of possessing the best kitchen in Moscow, and it is all due to Nikita Khrushchev. When he was running the country he believed in pampering journalists. So he made sure they had the finest chefs, the best foodstuffs, the most modern and complete facilities and the prettiest waitresses. Khrushchev isn't around any more, so things have gone off a little: the prettiest of the waitresses married journalists and their replacements appear to be dropout Aeroflot hostesses. But the chef is still extraordinary.

The House of Writers is a negligible amount less exciting for food, but a lot more exciting for decor and history. In *War and Peace* there is a description of a grand ball in Moscow. The ballroom, and mansion that housed it, was real, it was the home of an extremely wealthy nobleman, and Since the Revolution it has been the headquarters of the Writers' Union. (The ballroom scenes in the Russian film of *War and Peace* were shot there.) And now the writers eat where Pierre once danced and courted and went out to fight Napoleon.

It is not too easy to get good food to cook in Moscow. The state grocery stores have plenty of food, but it's monotonous and not too choice in quality. You get the really good stuff from what the collective farmers have grown on their own initiative and brought up to Moscow to peddle. (This is legal, up to a point.) The prices are scary—apples, $1—and so it pays a farmer to stuff a suitcase full of fresh lettuce from his private plot, hop in an Aeroflot jet, sell it off in Moscow and fly back. It is not just apples. It is everything from fresh violets to goat cheese—which, I think, accounts for the mighty aroma that distinguishes Aeroflot planes on domestic routes.

They are building enormous greenhouses in the outskirts of the northern cities in order to grow fresh vegetables hydroponically all year around, which may make a considerable difference some time.

Soviet joke:

On a flight from Soviet Armenia to Moscow there was a hijacking. Everyone was terrified except for one collective farmer, who jumped up, attacked the armed hijackers with his bare hands, subdued them and turned them over to the police.

"Comrade Collective Farmer," said the militiaman, "you are a Hero of Soviet Labor for your incredible bravery."

"Bravery-shmavery," said the collective farmer. "What was I going to do with 30 kilos of tomatos in Turkey?"

Had lunch with a Soviet Cosmonaut named Valentin Sevastyanov,



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one of the spacemen who spent eighteen days in orbit three or four years ago. Really bright, assertive, intelligent, friendly man. He is exactly like the American Astronauts I have met, except about 10% smaller. (All Soviet cosmonauts, I am told, were required to be under 5'6" to fit into their spacecraft.)

For years I had hostile feelings against the American astronauts, I think because of the incredibly pompous NASA public-relations image they projected. Then I began to meet and know some of them, and they aren't like that at all. They are good, courageous men who have done remarkable things, and apart from that they are as complex and indefinable as you and I and everyone else. Valenti Sevastyanov was the same admirable breed. He took me to his home for a drink (lovely huge apartment in the best part of Moscow) and we discussed mutual friends and how we felt about space. I listened with interest to what he saw ("The strangest thing was the Moon, which was yellowish-brown from space. The stars were very bright, in conspicuous colors, and there were two or three times as many as from Earth, so that I could not recognize constellations."), and shared what he felt ("In orbit I could see how small the world was, just one tiny grain of dust in the universe. I became more sure than ever that we must all learn how to live on it together like good neighbors.").

One wall of his apartment is devoted to medals and trophies, another to ikons. ("I myself am atheist, but I consider these beautiful art.") He shares the apartment with his pretty wife, young daughter, and young daughter's young puppy. The pup is named Snoopy.

The Soviets are planning to call a World Socialist Countries Science Fiction International Symposium sometime soon. It appears not to be definite whether westworlders may be invited at least as guests or observers. Should be interesting either way.

The USSR has had little or no science fiction on radio or television, barring some discussions on talk shows. Nothing dramatized that anyone could remember.

I watched some Russian TV from time to time, when I had the chance to spend a little time in my hotel room. Not knowing the language doesn't help, but my impression is that it isn't a lot of fun. The big viewer attraction is sports. The rest of it is news or how-to-be-a-better-Soviet-person documentaries or films.

One of the documentaries was on the subject of why it is very bad, comrade, to be late for work, since it means your whole department is thrown off schedule. The lecture (with film clips illustrating sides of beef piling up on hooks because



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Sergei didn't show up to push them over to the other side of the meat-packing plant) was delivered by a chuckling father-figure with white hair. I think I have seen the same fellow on American TV. He was a chuckling fatherly doctor selling hemmorhoid medicine.

The one film I saw at any length was about a wise, fatherly Red Army sergeant whose squad, for some reason, had to occupy a village in the Soviet Far East. There was this boy who was afraid they were going to hurt his goat, so he mistakenly threw rocks at them and wounded the sergeant, but the sergeant understood the boy's problem and, very decently I thought, took time to win him over.

On formal debate occasions one hears some Soviet sf writers complain that what is wrong with American science fiction is that it projects a view of the world of the future in which the ordinary man is regimented, deprived of his individual rights of self-expression and doomed to inhabit a gritty, unsatisfying society.

I never did manage to think up a reply to this which was both truthful and polite.

## Tbilisi, Leningrad and Out

Tbilisi is the capital of Soviet Georgia, and the czars called it "Tiflis." The Georgians are a strikingly self-sufficient people. They preserve their traditions with practically Yugoslavian stubbornness. Stalin liquidated a higher proportion of Georgians than of any other nationality, but he was a Georgian himself and they still have a sort of wry pride in him. (The only picture of Stalin I have ever seen in the Soviet Union was a portrait on sale in a Tbilisi shop window.)

There are no Georgian sf writers, but there may be. While I was there the Georgian writers' union decided to set up a special science-fiction section, which will start by translating Russian and foreign sf into Georgian and then, hopefully, will try to foster local talent.

Many, many Georgians appear to have read a fair amount of sf in Russian translations or in the originals. They like it. They want more.

Anybody care to bet on a Tbilisi bid for the 1999 Worldcon?

Leningrad was the home of the Grand Old Man of Soviet science fiction, Biyaelev. His books are numberless, and most of them still in print; I am not sure just what they are like, but get the impression they are basically juveniles with adult interest, rather like the Heinleins. Leningrad, of course, was besieged and surrounded by the Nazis throughout three years of World War II. The inhabitants were cut off from food and fuel, and were re-



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duced to burning the books in the libraries and eating stews made out of the glue from the bindings, among even less attractive substances. There are no native Leningraders aged around thirty. All the babies and small children either were somehow gotten out of the city, or died.

Among the casualties was the USSR's best known sf writer, Biyaelev. As far as I could find out, they do not even know where his body was buried. There was not much time for niceties in Leningrad in the '40s.

I was in Leningrad around the time of the summer solstice, and would not have missed it for anything. Leningrad is the farthest north of any metropolis in the world, not far below the Arctic Circle. On Midsummer's Day the sun never really sets. I went out to dinner and fell into conversation (about sf, transformational grammar and *Finnegan's Wake*) and in the heat of discussion failed to keep track of the time. Outside the window it was broad daylight, and it was a shock to look at my watch at last and see that it was one o'clock in the morning. So we went strolling on the banks of the Neva River, two, three o'clock, and crowds of people walking around, laughing, chatting, couples arm in arm, kids listening to Western music on transistor radios held to their ears.

It is like champagne bubbling in your blood. I don't know why. But it is.

It is a temptation to wind up this series of notes with a set of conclusions about What the USSR is Really Like. I will try to pass up that temptation. What it is like is itself, and nothing else. It is everything you have ever heard about it, and many things quite different. It is a tightly controlled police state, but it is also a place where I heard natives say rather astonishingly frank things.

One anecdote.

While I was waiting for a plane at one of the airports I fell into conversation with a couple of journalists on their way to an assignment. They turned out to be dyed-in-the-wool sf fans, and we became pretty friendly, especially as we were becoming rapidly awash in Soviet wine. So one of them offered a toast to us meeting again. And I offered a toast to all of us meeting again, with their families, in my own country. And another of them stood up and raised his glass.

"I drink," he said, "to the difference between science fiction and fantasy. When my friend here proposed a toast to our meeting again, that was science fiction. But then my new friend Frederik proposed a toast, and that was to all of us meeting again, in the United States, with our families; and that, my dear friends, was fantasy." ★



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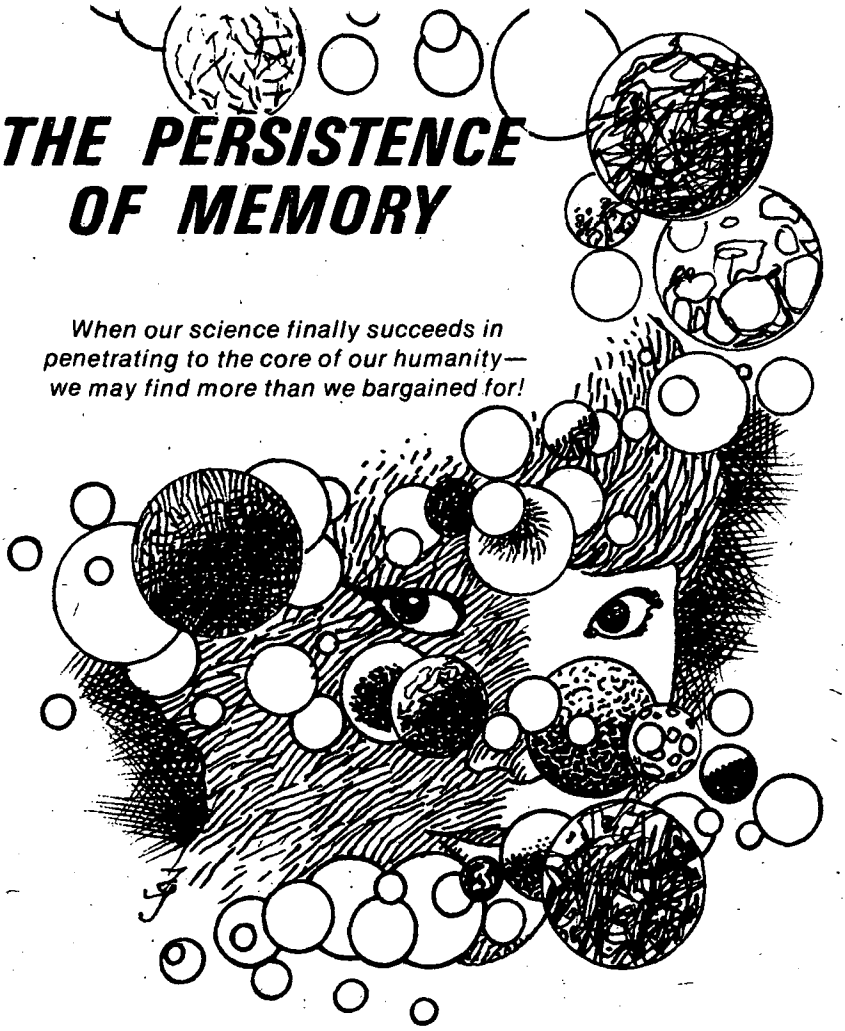
# THE PERSISTENCE OF MEMORY

*When our science finally succeeds in penetrating to the core of our humanity— we may find more than we bargained for!*



## J. A. LAWRENCE

*With thanks to Samuel R. Delany and Robert P. Holdstock*

OVER THE pepper-and-salt beard, thick lenses confronted the student.

'You're with the Chan-Monteith Institute? Is this research for a paper, or what? Why are you asking me all these questions?'

The dark young man refilled the drinking cup and offered it. The



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melancholy sound of a songtape filled the silence, while the professor's hand hesitated, then accepted.

'I have this feeling I should talk to you,' said the student. 'I found some old records from the Memory Project of '02. I wondered what had become of you. That's all.'

'So now you know what's become of me. I teach biology at Idaho A&M. Keep the cup filled . . . what did you say your name was.' His voice reflected no interest.

'Why did you quit?'

'Why does anyone quit?' The man produced an old-fashioned pipe and filled it; an elaborate procedure of stuffing and tamping. 'Not enough reward . . . the place was too claustrophobic . . . what business is it of yours, anyway?'

The student smiled, and said again, 'I had this feeling.'

The professor winced. 'There was a time when "having a feeling" was regarded as crackpot. Unscientific. The whole Karma bit—we didn't have time for that. We used to have discipline. We did our research logically—step by step, proving everything over and over, believing nothing we couldn't *prove*.'

'We still do that, even in the social sciences,' replied the student. 'Did you think scientific method had drowned?'

'In a sea of mysticism.' The pipe required relighting, and he spoke from a cloud of blue smoke. 'Listen to that drivel. Even the pop songs, reduced to a 5-tone scale. We used to have twelve—we lose and lose.'

The boy was used to the Oriental resonances of modern instruments, where sympathetic strings iterate and reiterate the melody, lingering within the ears and bloodstream, the delicacy of single tones developing into implications of lifetimes . . . or so it was agreed. The tape suddenly spewed out a cacophony of nostalgic rock-and-roll.

'Christ!' the professor slammed down his cup. 'That's *Lui-zhe!* It was meant for the koto.'

'I thought you didn't approve . . .'

'"And the wild horses pulled us along the sand, then, in those blossom-days . . ."' he quoted bitterly. 'That's a ch'in song, not rock-and-roll. Can't they tell anything apart any more?'

'I didn't really come here to discuss music,' said the student. He refilled the emptied cup. 'I wanted to understand why you quit the Institute.'

The older man looked at him, and swirled the liquid in the cup. He took in the narrow, aquiline face, the black straight hair.

'How old are you?'

'Almost eighteen.'

'I was nineteen when I joined the Institute. I was there two years.' He fell silent, eyes unfocusing.

'I know that.' The boy waited. Then, 'You were doing some work on the five-root of five.'



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Liquor slopped on the plastic surface of the table as the man jerked. He sat immobile for a moment and said, 'What have you found out?'

'Nothing much,' said the boy blandly. 'I just have this feeling.'

'So you have a feeling. What of it?'

The boy regarded him steadily. The back of his neck shivered as he gazed at the sharp, self-possessed young face.

'You too have a feeling. Don't you?' said the student with a bright slow smile.

'All right, all right.' The professor sat back heavily. 'May god help me, I do. I don't understand who you are or what you want . . . but I suppose I don't understand who I am either, so what the hell—keep that cup filled, kid. Out of respect for the dead.'

'Who is dead, then?' He set down the carafe.

'I don't know why I said that . . . The place is still going, I'm still going. But in those days both of us were just out of the egg. All bright and shiny new.

'The Institute was just about my age, sprawling over the last remaining bit of Connecticut countryside. The mysterious East was taking us over, lock, stock and barrel. No need for the war our parents had been so worried about—just a series of small insignificant events; youngsters traveling to god knows where looking for mystic experience: the meditation-encounter-group craze: instant nirvana through drugs: and the gradual leaking away of faith in the capitalist virtues. All things were turning inward—no more racing for the conquest of outer space. And we went socialist.

'Suddenly we were having intimate relations with China. Cooperative this, the People's that. The Institute was a symbol of "scientific cooperation between the People's Republic of China and the United States of America". Both parties contributed their best equipment. But with competition, there was a shortage of good personnel. They had to scrounge all over the world . . . there's something—unstirred—about the state-directed . . .

'At any rate, the West had swallowed the East, whole. I think we were choking. Maybe it's better nowadays, I don't know . . . My students here still seem uneasy.'

'We live in interesting times,' said the boy. 'But some of us see great opportunities—very great indeed.'

'Oh, so did we. The only drawback was that we had to work for group credit, and the groups didn't quite blend. Sure, they all spoke English, but they thought in Mandarin, French, Hindi, god knows what. It was Mom's apple pie with soy sauce and socialist realism . . . but I wasn't aware of the cultural indigestion then. All I knew was



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that personal ambition had been declared obsolete . . . I suppose that's still true, isn't it?'

'So they say,' said the student, shrugging. The quick flash of his black eyes was not hooded soon enough. The man hesitated.

'. . . Fill the cup again.' He wiped his beard.

"Do you know I was in the Memory Project. There were about fifty of us working on DNA. I was in the group trying to isolate the memory-controlling components of human chromosomes—by working with rats and mice, of course.'

'What can you tell about us by watching vermin?' said the boy scornfully.

'A very great deal. Lab animals aren't vermin; they have been carefully bred for years.'

'So being laboratory-bred makes them superior. Interesting. Go on.'

The professor frowned. 'Where was I?

'We had plenty of animals; we had fantastic equipment. The JCN-5000 computer, the BR-700 microscope—which makes holographic images all the way down to atomic level. We had a collection of chromosome maps, almost all blank spaces waiting for us to fill them in. Some damn fool scrawled "Here there be Dragons" all over them, and started a row with the Peking contingent. It took nearly a month to soothe them down, and by then we knew each other pretty well, language barriers or no.

'Our lab had a central conveyor belt that received our slides and carried them to be freeze-dried, then to whatever microscope we wanted to use. We had readout panels and an immense library and filing system in the computer . . . Christ, that was a marvelous machine. Saved months of working time.'

'How could you bear to leave it, then?'

'I'm getting to that, I'm getting to it,' said the man testily. 'Don't you kids learn patience along with your ideograms?

'So there we were, confronted with models, holographs, screens, data banks, waldoes, all the machinery we could possibly need, staring into the enigmatic little patterns called chromosomes . . .

'I used to be a skinny kid with long thin fingers. When I was six I could lift a cobweb from its moorings without breaking it. When I was fourteen I discovered I could turn a girl on by feather-brushing my fingertips on the back of her neck. A delicate touch, they said. Watchmakers were out of date. Work with something small, they said. Might as well have flippers for all the use it was in this job. Small, yes. Molecules are like that.

'The trouble was that the meaning of every molecule was altered by the meaning of every other, and by the time the information reached



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our sloppy, gross perceptions it was distorted. The machine measured as accurately as we could conceive measurements; and beyond. Our grubby little notions were turned ridiculous. We were too ponderous to hear the laughter. *We* never saw chromosomes; thousands of square feet of JCN saw them for us, watched—what? An infinitesimal brushing of yes and no, no and yes, defining the basis of identity. I began to feel that numbers were the wrong language, and that was all we had.

'The papers piled up. We hunted for clues. We had found out a few things, pencilled in a few guesses on the blank maps. We had, possibly, established that Chromosome 17 contained some of what we were seeking, information that would eventually control cortical development. We had applied the molecular knife to thousands of muscine molecules. There were results, oh yes, there were results. We had bred mice who had lost the sucking reflex and starved with the teat in their mouths. We had rats who built nests and waited for something to happen but had forgotten what. We had mice with perfect vision who blundered into obstacles, and mice who regarded their food as a mortal enemy. We had proved these instincts to be inherited memory, some part of which was inherent on Chromosome 17. But we couldn't isolate the DNA in question, nor could we predict what results we would get from what seemed to be the identical manipulation.

'And I hated the angle of attack. I dreamed of doing something with my animals that would add to their capacities—make them remember something they could not have known—something beyond instinct. But I couldn't do any more with giving than with taking. How could you tell if a mouse knows something it shouldn't? They can hardly tell you their reminiscences.

'And the Skinner-box gadgets were a dead end. Once, only once, a specimen went immediately to the correct set-up, pressed the correct button, and did it six times in a row. The ghost of Lysenko grinned over our shoulders. The other lab groups came in to see our Mouse. Then the little bastard blew the seventh try and never got it right again, nor his children nor his grandchildren or any unto the twentieth generation. We checked him out for injury, brain damage, anything. No dice. No repetition, no explanation. Another mighty triumph for Chance.

'So we brooded over charts and models and holographs until our eyes ached, and spent a lot of time fooling around with the girls in the group and drinking coffee. The molecules hung there on their chains, knobs of acid twisted into helices making fools of us . . .

'One day while I was passing the time doodling the door opened and



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someone came in with a tray of slides. Just another tech in a white coat, seen out of the corner of my eye, till I glanced up. A white Cheongsam, not a lab coat, slit up the sides. She glided in effortlessly balancing the slide boxes, seeming to cross the room without any visible motions. Her face was plum-gold above the white, her smooth dark hair coiled high. Her legs shimmered inside the long slit skirt.

'I dropped my notes in a jumble. The slight sound caused my neighbor to jump and as he raised his head to complain he saw her too. His expression embarrassed me. I closed down my own face.'

'The girl set the trays on the counter and turned to leave. No one spoke. She did not seem to notice us at all. As the door swung behind her the bodies in the room came back to life.

'Across the table, Lisbeth sighed. "I'm going to hang out a sign saying 'Plain Sewing,'" she said, looking ruefully at her own pretty legs. Nobody could answer. Until then we had thought her beautiful.

'The other men left the room, ever so casually. Some returned, their expressions saying, do not intrude. I finally escaped and as soon as I was out of earshot of the others pelted down the corridor to Anstruther's office.'

'Anstruther!' said the student. '*The* Anstruther?'

'Of course, the Anstruther. He was Director then. He must be near retirement by this time.'

'He has retired,' said the boy. His expression was an odd mixture of satisfaction, malice and regret. 'Please go on.'

"WHO WAS that?"' I demanded, out of breath. "Who was that tech that just came in?"

'He smiled, looking sleek and smug. "Yes, she is, isn't she?" he said pleasantly.

'Anstruther-san, for god's sake, don't hold out on me now.' I suppose I was pushing my luck; I thought we were friends.

"'Calm yourself, Ric. You're the last in line—they've all been in here in the past couple of minutes."

'I sat down slowly. I managed barely to level my wild heartbeat. "'She's magnificent."

"'I didn't realize that she would cause so much disruption." He swiveled in his leather chair, his bulk lumbering after the swinging jowl. "She's just a new tech, that's all. We're trying her out on the job."

"'Well, I'll tell you something. She won't go home alone tonight."'

"'No. Go back to work, Ric."

"'Won't you tell me where she went? Is that all you'll say?"

"'That's all." He withdrew his attention. I went back. On the way I realized I was very angry. Had he meant that he would be taking her home? Was he presuming to decide upon whom he would bestow her,



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and did he have any right? At least, I told myself, I hadn't deluded myself that he and I were close friends. What in hell was he up to? My rage must have exploded into my voice. As I reached the lab, I shouted "He says she's just a new tech. Period." The chattering of the others died back. The air was thick with resentment. At me, at Anstruther, I didn't know; but a few minutes later I was alone. But even my microscope panel had gone dark.

'I stayed late anyway. I wasn't going to beg. I stared at meaningless notes on the nature of memory. The notes stared back. The autoclaves and freezers hummed away, unperturbed. My fingers kept feeling the smoothness of pale gold thigh instead of paperex. Black eyes slanted warmly through the charts. I thought I had better take a walk through the cool night air.

'Anstruther's office light was still on. The door was half-open. He called, "Come in, Ric." How had he known it was me? Never mind; as I pushed the door I saw her and forgot Anstruther. I remember wishing I'd changed my coat. Then I stopped.

'She stood by his desk, one hand resting lightly on an open book. She sat in the chair by the wall, her hands folded in her lap. She leaned against the chair, her hair slipping from the smooth coils. She knelt on the carpet studying a swatch of material intently. She stood, and faced me as I halted, stunned, with one foot paralyzed in midair.

"'You see, she doesn't go home alone," said Anstruther merrily. "Better let him sit down, girls, before he falls over."

'One on each side, they guided me, holding my elbows, to the vacated chair.

"'This, these, are Nyen-Hwa, Ric."

'Five graceful Oriental heads inclined toward me in a queenly gesture. I nodded weakly, like an unstrung marionette.

"'Er—hello," I muttered, inaudible even to myself. The Perfections looked at me gravely. She, they, said, "What is the trouble, Stan-Tzu?"

"'I believe he finds you five times as beautiful as he had expected."

"'Ah, ah, ah, ah, ah," the voices murmured.

'Anstruther leaned over and pulled open a drawer in his desk. "You'd better have a drink. You've been working rather late." He unsealed a white ceramic bottle. I recognized a middling brand of mao-tai; one of the ladies brought it to me, poured some in a tiny cup.

"'Thanks." This time I achieved a gurgle. They all bowed again and I gulped at the drink. It steadied me a little, enough to say, "Anstruther-san, you're enjoying my confusion."

'He laughed heartily. "I am, I am. Now I'll take pity on you. These ladies are not quintuplets."

"'Not quintuplets," I repeated



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stupidly. He had overestimated me. My reasoning powers had not yet reached so fine a point.

"'Chan-Monteith is a big place. Research covers a lot of ground. We are rather proud of this little flowerbed."

'I was beginning to catch my breath—as long as I kept my eyes off the girls. Five of them.

"'Yes, Ric, they represent quite an achievement . . . the first successful human clone, raised to maturity in the Institute . . . We've been working on it for years, and only made it seventeen years ago. What a prize, eh?"

'I couldn't answer. I just sat there, as he went on.

"'You can read up on it sometime, Ric. Right now—I'm in the mood to celebrate!" He raised his cup in a toast. We drank.

'Questions half-formed in me, as in a dream. Raised in the Institute . . . what kind of education had the girls had, isolated from normal society? Even the experimental animals suffered from maternal deprivation; what had they been offered as parents? Anstruther? And how under god had they become so exquisite? The questions I might have asked then escaped me. I cared only that they should have known some kind of love. Humbled, I no longer felt even slightly adequate.

"'Aren't you interested? This is the most spectacular genetic experiment of all time, and you sit there like a lump!" Anstruther heaved to his feet. "Look at 'em! Perfect!"

"'I'm—overwhelmed," I said. "What—who—?"

"'Aha! I'm glad you asked." He refilled my cup himself. Waving the carafe he gestured at the girls, now occupied with the swatches of brocade, silent.

"'They don't need to talk much—to each other. Their minds work alike, most of their associations are identical—we had some trouble teaching them to talk at all." He turned his back to them and leaned over me confidentially.

"'Wait till the Press hears about this," he whispered. "What a picture, eh? . . . You can chat with them whenever you like, if you can get 'em to answer you. They aren't very gabby." He straightened up. "Come along, girls, we'll walk you home," he said expansively.

'As one, they rose; the silk vanished. They proceeded, as in procession, to the doorway. Each back was perfectly straight; each delicate head set erect upon its ivory column; each pair of peach-grooved buttocks nearly motionless, so sweet and smooth the walk.

'And the musk-and-apple-blossom odour threw me into renewed confusion. Was I responding to what I wanted to find—so intense a sexuality under the remote innocence?

'Helplessly, attached to Anstruther and his bouquet, I



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followed them down the hall, out into the grounds and along the path to the distant building we would know as the Pavilion. At the entrance we were greeted by a woman who introduced herself to me as "the girls' ayah—they call me Mariji." She/they accorded us a last formal bow and a smile that irradiated the serenity of golden faces, and was utterly contained.

'They needed no one, nothing. As distant as the T'ang dynasty, they were complete. How inappropriate was my fearful desire . . .'"

THE professor turned his head suddenly. The student was staring with fixed concentration. "What are you looking at?"

'Sorry. I was interested.'

'I didn't want to remember all this. It's been more than twenty years.'

'Go on. You know you must.'

The professor sighed. 'I wish I didn't have that feeling.'

'The next day was chaotic. Anstruther had sent a release to the science columnists of the major papers and TV. As soon as one editor had got his hands on one photograph, the deluge set in. Even though our lab was at the far end of the grounds, they were in and out all day demanding directions to the 'Pavilion of Popsies", no less. When the astrology woman from BTV floated in I gave up for the day.

'Do you know what a palimpsest is, boy?'

The student, startled, said, 'An ancient piece of writing. Why do you ask?'

'An ancient scrap that has been partly erased, and written over,' the older man amplified.

'If Anstruther had made a DNA palimpsest of the cell he cloned, our project was redundant. He must already know how to control genetic memory patterns and we were wasting our time. But he hadn't concelled us; and he had said I could read his records. I had to know how much control he'd had over that cloning cell seventeen years before.

As I pushed my way across to the Pavilion—surely all these arms and legs did not belong to reporters?—I realized the monumental temptation facing the Director at this moment. Already he might have become entangled with a public construction, in which truth could easily get lost.

'The way in to the Pavilion was blocked by two fellows in uniforms. An army van was parked by the gate. I was stopped and searched in spite of my ID card. Finally a call was placed to Anstruther, who was understandably annoyed at the interruption of his interview.

I had got in to the building. Now I was at a loss. It was obviously not the time to ask for those records. The hall was marvelously quiet after the uproar outside. I



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wandered down a corridor carpeted in white. It ended in a low archway, opening into a room whose contrast to the rest of the Institute was profound. Not a room, a chamber. The walls were hung with silk paintings . . . Complex thoughts; these must have been priceless, and by state order belonged in museums; dawning recognition that here was where they belonged, in this place designed for the Nyen-Hwas; a belated decision that they must be high-quality plastic replicas after all. Deep reddish drapes hung from the ceiling, not against the walls but at symmetrical positions in the room, gathered into cylindrical bunches and tied with cut velvet ribbons at intervals. The windows were elaborately leaded.

"'Please remove the shoes in the Ming T'ang.' She emerged from behind one of the curtain-pillars, golden.

"'I'm sorry,' I said, feeling at a heavy disadvantage as I bent over clumsily to remove the offensive shoes, which now seemed incredibly gross, and which I had no place to hide. 'Er—excuse me,' I retreated to the doorway, holding the shoes. I was already a discourteous intruder in that place.

"'Please do not go,' she said. 'Will you tell me what all the unusual noise is? I can't see from my windows.'

"'There are a lot of people who are curious about you . . . where are the others?'

"'I am here,' she said, with faint edge of surprise.

They were all there, now that I looked again.

"'Why are they curious about me?' said one.

"'You are rather different from them,' I said helplessly.

"'Yes.'

"'So they're curious.'

"'What are they like?' I wondered how they managed to speak one at a time; then realized that they must be used to anticipating and deciding.

"'Well, like people are, all different.' That sounded lame even to me. I tried again. 'You're very unusual. Most of the rest of us have experiences in common that you haven't shared. And we don't any of us think exactly alike. You haven't lived like ordinary people.'

"'But that is as it should be.'

"'Of course, but, well, the others are curious.'

There was laughter. 'Are you also curious?'

"'I—yes.'

"'Please be seated.' There were low cushions, without backrests. We sat—one of us with cracking knees. 'I have curiosity as well. Stan-tzu cannot explain. I was born here; I know everyone around me and have always lived in this place. Why do I find it strange?'

I stared. 'I don't know. It's aphoristic, we feel at ease with what we know.'

'I am easier now in this room. It



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is nearer right than any of the others. Yet I have only just begun to dress it."

"'Who looks after you?' I was getting accustomed to their alternate use of the singular pronoun.

"'There are many—Mariji has always been here, Stan-tzu, oh, many others. I have teachers. They do not understand either."

"'Do you go out?'

"'Sometimes. But the car disquiets me.'

'The Institute car was a luxury—private cars were a thing of the past. Cars disquieted me, too. I said as much. They smiled, welcoming even this small bond. I knew how small it was but—oh, god. The smile incandesced their faces until they seemed surrounded by a cloud of fire which ignited and spread through me to my genitals. I felt my face burning. They went on smiling. I couldn't get up, nor stay where I was; I closed my feverish eyes and struggled for some sort of calm. "A clone," I thought. "A-homogenetic-clone-incubated-in-isolation-a-breakthrough-scientific-experiment—" Like Kim's multiplication table, the jargon came to my rescue.

'When I looked again, they also had closed eyes and had dropped into meditation. All at once they emerged from it and rejoined me.

"'Stan-tzu does not know how to do that," they said. "Nor anyone else here . . . I thought I was the only one."

'Through my precarious calm, I managed to say, "Anstruther grew up before it was taught. It's part of our schooling now."

'A sigh of sheer satisfaction. I said, "Tell me about this room. What did you call it?"

"'I call it the Ming T'ang. I don't know why. It seems right. It has eight windows. There should be pillars here, and here," they indicated the cascades of drapery, "but we didn't know that was what we wanted until we had made these."

"'But how did you know?"

'An expression of perplexity flashed over the perfect faces. "I just know. The pictures are not right; but when I asked for some Chinese paintings they went to a great deal of trouble to get them, and I couldn't say they were wrong. Please, don't mention it to Stan-tzu. It would distress him. He always wants to please me."

"'But what's the matter with them? They are very fine."

"'Yes, but there's something . . . they are so—complicated? Sophisticated, too graceful. I remember that wall paintings should be more definite . . . The horses are very nice."

'The horses were T'ang reproductions.

"'You *remember* wall paintings? Where did you see them? In the Institute?"

"'No, how could I? I don't know. Sometimes I remember things I cannot possibly remember . . ."



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Two voices overlapped.

'My heart beat a bit faster. I had recriminated the mice for their inability to speak. I must get those records.

'Gently, I asked, "What else do you remember?"

"'It's so hard, like trying to recall a dream . . . there are bits here and there. It's much easier to point out what feels right when we see it . . ." It was disturbing. As they spoke of this the soft voices separated, as if the clone were losing its rapport. For some reason this made Nyen-Hwa more accessible. Again I was aware of the scent of musk . . . and now there was fear, disintegration intermingled.

"'Does this frighten you?" I said aloud.

"'It is Stan-tzu. He is afraid. He doesn't understand."

'There was something here of importance. My mind was churning with tenderness, passion and curiosity. They were so goddam beautiful.

"'I will try to understand. Stan-tzu knows a great deal about you; if there is something he doesn't know I can try to find it out." The troubled faces smoothed and they smiled again, relieved. A hand touched my arm; the others had reached to me and withdrawn, as if sensing that so many touches would be too much for me.

"'I thank you." Slowly, two of them slid to their feet. "Will you take tea?"

"I had the feeling it would be rude to decline, as bad as the shoes. We waited in friendly silence while a glazed pot was prepared and tiny handleless cups appeared on a tray. The tea was overperfumed for me, but surprisingly refreshing. Or perhaps it was the company. When I took my leave, they bowed, once more distant, serene and intact.

THERE was a moment of silence. Then the student murmured something.

'What?'

'I said, So that's what they were like, the first one.'

'I can't begin to tell you what they were like. They were so pure, so remote—it was something to do with being a clone.'

'I know.'

'You can't possibly. You couldn't have met them.'

The boy laughed. 'Did you think Nyen-Hwa was the only one?'

'Of course, she was unique—what?' Light flashed on the lenses as the man jerked. His mouth opened slowly, a fleshrimmed hole in the patchy beard.

'Oh, old Anstruther had several clones under way before he stopped,' said the student. 'We were the last—there are thirty of us . . . we're not so pure and remote, though.' He snickered. 'But I do know what you mean. Ordinary people look all sort of strung out to us . . . anyway. Go on with your



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story.' He offered the filled cup. The professor drank deeply. As if hypnotized, he said, 'Thirty. . . that man never knew when to stop.'

'I told you we are the last. He knew. His work's done.'

'THE day after I had visited Nyen-Hwa I went to see him. I didn't get a chance to ask anything. Before I could open my mouth he said, "Did you see the TV program?" He was so filled with pride; I couldn't deny him his big moment.

'I said, "You were great. Never heard anything described so clearly." I didn't say, so incompletely.

'"I've devoted all my life to this project, Ric . . . all the stuff I couldn't say—the cows' uteri; the accidents; all those Institute documentaries when we had to keep this quiet; the staff problems . . . the girls already have a film offer, how about that?"

'Appalled, I said, "You're not going to . . ."

'"Don't be an ass, of course not." He leaned toward me. "Sooner or later they'll have to find their way in the world, but not yet. Not till the noise dies down."

'"But what will they do?"

'"They don't have to do anything; they exist. That's enough."

'"Enough for you, Anstruther-san; but for them?"

'He shrugged. "They won't be in want. They've been trained here, they can stay on. Or get married or something. They'll be okay."

'I wasn't satisfied. He didn't seem to have given any serious thought to their future. I pictured them seeking helplessly for their "right" frame in our erratic world, and shivered. Anstruther's next remark pushed the picture to the back of my mind. He spoke in a voice taut with suppressed greed.

'"Ric, they've said something about the Peace Prize. For the Institute, of course." As I looked at him, I could see the tide of publicity rising around him, and knew that before long he would be imprisoned by image-makers. He was susceptible. The first kiss of public attention had roused his appetite. Sure, he deserved recognition; but in that moment I lost all my awe of the man, and despised him.

'So I grew up a little. In my disappointment I resolved to stand by the girls. Their putative father had forgotten them, as human beings. I would take their welfare to myself, somehow. If my interest was a combination of lust, scientific fascination and esthetics then so be it. Even then I knew that love isn't an element but a compound.

'I asked for the records.

'"Oh, yes. Sorry, Ric, they've been put under security."

'"But you said I could see them!"

'"Oh, I have nothing to do with it. Board's decision."

'That was one code long broken. The "Board" suddenly surfaced



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when an unpopular decision had to be made. Now those files would be locked in the computer by a key that would effectively keep my hands off, unless . . .

'I left the office thinking furiously. I was no engineer. The tech staff was rotated so often I never had the chance to scrape an acquaintance among them.

'The Pavilion receptionist knew me by sight. It didn't get me any closer to the records but it did keep me in touch with Nyen-Hwa. I visited them every day. I brought pictures of Chinese things.

'We began with ART TREASURES OF THE EAST, expensive illustrations and sloppy one-sentence text; then, THE ART OF CHINA, better commentary, not-quite-so-elegant pictures; and we ended with A DISQUISITION ON ESTHETOMETRIC COMPARISONS OF IDEOGRAPHIC DEVELOPMENT IN CONNECTION WITH EQUINE REPRESENTATIONS 1200 B.C. TO SIX DYNASTIES, whose old flat photos came in a separate folder. Among them was a rather uninspired bronze animal which had been lost in a plane crash of the eighties. She wept over it. It had been "right". She/they were impressed, amused, admiring of the T'ang horses and the Ming pottery, but those were not the same. Only objects dated before about 250 A.D. had that certain quality of recognition.

'I acquired a taste for scented tea. And I lay awake nights, my head a carousel of thicknecked horses, electrons whirling around a nucleus of yearning, bridled with polypeptide chains, spinning around and around the grinning carnival face of Anstruther to the zithery music of the ch'in.

'Nothing succeeds like a courtship when the suitor is committed to solving a problem for his beloved. You'd think it would be perfect, wouldn't you? What a romantic dream . . . there I was, head over heels in love, my sweetheart's eyes alight at my footstep, all of us counting the long slow seconds of separation . . .

'Five sweethearts, inextricably one, inhabiting five exquisite hungry virgin bodies . . .

'What would you do? I imagined things . . . oh, how I imagined. My imagination tangled me in confusions. Suppose my capacities extended only to three, or worse, four? How could I be sure whether or not I had actually, er, made it with all of them, or missed out one? And how close were they really to each other—close enough to feel one another's sensations? For all I knew I might be providing five times as much as I'd get—I squashed that ungenerous thought. I alternated between a hot conviction that I could easily satisfy all of them, and a cold feeling that I couldn't possibly hope to. I couldn't really understand them, not ever. Yet when we were together there were no doubts. We were in love . . . I



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didn't dare start anything at all. I didn't know how.

'And every day I tried a new attack on the locked records. Anstruther had moved his office to the PR department next to the Pavilion. He spent his time offering titbits to the Press. I buttered him like any flack in order to obtain small pleasures for my love. We managed to mount an expedition to an exhibit of Chinese art. By the time he had set up his complicated security measures the show was about to move on; but at last we did get there in privacy. The girls came home in a state of intense nostalgia. There had been some lacquer boxes . . .

'Then Anstruther left for a week, to collect his Peace Prize. Thereafter he was inaccessible.

'I got a new batch of mice. I went through the motions of analysis, blindly recording the usual murky information revealed by the microscopes, filing the records somewhere. The whole program had lost its impetus; we had no director.

'Finally I just let the system run on and devoted my whole attention to the Nyen-Hwa records. It hit me suddenly; suppose Anstruther had placed that bar across the records in the computer without planning in advance? He wasn't really regulation-minded. That night he had been a little drunk; he had introduced me to the girls . . . he had been triumphantly preoccupied with success, the night before his first Press announcement. Suppose he had thought up the locking code on the spur of that moment? . . . Success meant "five". On impulse I worked out the five-root of five; the computer hesitated. I knew I'd got it. I fed in that number and "Nyen-Hwa", and the screen lit up. So simple, so obvious . . . I cursed myself for the weeks of stupidity.

'. . . In 1986 liver cells contributed by living donors, Chinese and American, had been de-differentiated to the embryonic cell needed to reconstruct the whole organism. There had been occasional efforts at human cloning earlier, all failed. There was public reluctance, the equipment needed was prodigious, and nobody had been able to establish at what stage of cell division it would work. When the Institute was founded, Anstruther got it all together for the first time.

'They had allowed the first cell to divide, parted the resulting pair. Six hours later, one of the four new cells had been removed and killed for inspection, leaving three in culture. By the sixth division fifteen single cells remained, and these were cultured through to embryo. Only five had reached their full development.

'The chromosomatic records were all there. Had they been interpreted? If so, why were we still fooling around with identifying memory components? I turned back to the beginning, to the cell


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drawn at random from anonymous donors . . .'

'IT WASN'T all that random.'

'What do you know about it?' said the professor irritably.

'We've had a lot of time to check things,' said the boy. 'Naturally, we've been curious about ourselves, and the others. The Nyen-Hwa cell came from a Chinese girl in the lab; her family had lived in Hunan—that's the place they have discovered the Han tombs, all those jaded ancestors.'

'So that's what they remembered. . . and yourselves?'

'Oh, we're Italians. We weren't supposed to know, but we have ways . . . we started with one of the Maintenance Cadre.'

'I see.' The pipe had long since gone out. The professor began to clean it. The student watched the process with distaste.

'You're making a bit of a mess, aren't you?' As the man looked up, he noticed the open notebook for the first time.

'What are you taking down?' he said nervously. 'This is all in the Institute records.'

'Not quite all,' said the boy. 'I'm just making some notes.' He smiled reassuringly. 'It's much easier to understand when you tell it—we don't learn much biological notation in the Political Science department. You don't need to worry about a thing. Go on, what about the chromosomes?'

'I don't need notes to remember the next part. It's a lot of dates stuck to my mind.

'Chromosome 17 was as familiar and enigmatic as ever. It wasn't different from others I'd seen in any way. The JCN presented me with all the details of that first cell, models of the chromosomes made from the holographs taken at the time . . . I went on to the divisions. II had taken place on 27 May; III, at 2:30 the next morning; IV six hours later; V, seven hours after that. Of course the records were a few minutes older, allowing time for slides to be processed. But near enough . . . by Division VI I was seeing spots that weren't there, and Chromosome 17 had shown no signs of anything.

'I set up the JCN to do some finer inspections, and left the lab. It was after 0500. I was still groggy when I went to my love in the afternoon.

'"Ric, how tired you look,' she said, and led me to my cushion. I forgot that it had no back, and leaned, and sprawled in a heap. They exclaimed, and were all around me asking, "Oh, are you hurt? I am so sorry . . ." Soft arms touched me, embraced me. Remember, I'd had no sleep and worked all night. I forgot everything; I held a warm body in my arms at last, and caressed her . . . I was lost.

'I don't remember the rest . . . if I do remember I will never tell it. Never.'



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He dropped his head in his hands and was quiet. The student watched, and refilled the cup. The professor pulled himself upright after a few minutes.

'I awoke there, in the Ming T'ang, alone. I have never been so alone. There was no sound, only a faint dawn light through the tiny windowpanes. I knelt there, stricken. What had I done? What colossal arrogance had led me here? I had nothing to offer them, nothing. Can you understand? They were unique, precious, vulnerable. I had failed them. I had known how little I understood and barged in, unthinking . . .'

The student interrupted. 'But I thought permissiveness had been around a while even then. Why all the fuss?'

The older man shook his head sadly. 'You haven't understood at all. They were different. They hadn't grown up with the rest of us; the only men they knew were Anstruther and me. When you invoke the power of sex things happen to people."

'Well, what happened?'

'I was afraid to visit them again. . . . They sent for me. Then I was afraid not to visit.

'I made my way to the Ming T'ang in a state of panic. They ran to greet me; they kissed me. All my fear disappeared. I only loved them . . . and then they spoke.

'One said, "Ric." Another said, "You are beautiful." Another said, "We love you." All at the same time.

'They had changed. They were out of synch.

'They smiled, and one was dreamy, another merry. They moved, drawing me into the room, and misjudged each other's movements, and laughed.

"'Why didn't you come to us yesterday?" "We wanted to see you!" "We", not "I".

'They seemed quite happy. My fear returned. I could see so much further than they. I was older and experienced. I knew I had broken something irreparable. I stumbled through an explanation of my absence—I had been very tired, I had been working on the problem—they accepted, without satisfaction.

'Politely, one of them said, "Tell us"—us!—"what you have found. I said something, I don't know what.

"'It will take a long time to find out?"

"'I'm afraid so."

"'We have plenty of time."

"'Yes." Did they? I was conscious of Anstruther, of guilt, of time running out. I explained that I thought I ought to concentrate on the work. They clearly felt they had disappointed me. I couldn't tell them about my terror of precipitating a row in the Institute; nor that I could see the gentle pattern



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of their days falling into chaos, because of me.

'I fled.

'A few colleagues sat around in the lab, drinking tea, gossiping. Someone said hello in a desultory way and offered me a cup. To my surprise my hands shook too much to hold it. I retreated to my desk, closing my ears to the chatter. The troubles of the others were dim and uncomplicated, they only had to worry about their own futures.

'In my absence the computer had constructed a series of schematic models of the chromosome divisions of the Nyen-Hwa cell . . . I wondered which of those mysterious helices contained beauty, and quickly turned back to biology. Molecular diagrams were displayed on the screen. I tried to concentrate . . . the helix hovered, section by section, twisting before me . . . rings of cytosine, guanine, adenine, thymine, parting and rejoining with the sugar bases, bonded by atoms of hydrogen and oxygen . . . the beginnings of my ruined love . . . Division I, II, III, IV . . . what? Something had happened at Division III.

'The bonding pattern had altered . . . a flicker in the image had caught my eye. I brought the picture in closer, and watched. One hydrogen atom of one molecule of cytosine had dropped out of its normal position, and moved down the molecule; thereafter the chain of that DNA had bonded askew, thymine to guanine instead of to adenine . . .'

The student's stylus was moving slowly. His eyes were glazing slightly. 'You don't know what I'm talking about.' said the man.

'You'd best tell it your own way,' said the boy. 'I'll manage.'

'WHAT I didn't know was whether this freaked-out chromosome had anything to do with Nyen-Hwa's freaked out memory. I had to induce the change in a cell culture of my own, and then test it on a specimen . . . I tried. I clobbered a cell with x-rays, and it died. I tried gamma radiation, expecting the same. It died. I bombarded it with sound and ultrasound and infrasound, and it died. But *something* must have caused it . . .

'Finally I got from the JCN-a report on all the experiments of the dates in question, in the whole Institute. On the 27th there had been a telemetry project involving microwaves. I tried microwaves. Nothing. Culture terminated. There had been a series of brain-acupuncture tests; no use at all. There had been some magnetographic measurement of a point on the 212-day solar cycle. There had been a new—and unsuccessful—staining test in the pathology lab. I went back to look at the solar experiments, without much conviction;



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but the time was right. The sunspot cycle, blah, blah, microvariable star . . . human pulse rate related to the cycle . . . so? The instrument had detected magnetic waves, a perfectly ordinary part of the cosmic background, as expected. Blah, blah.

'But there was a footnote I'd missed the first time. For one nanosecond the clocks had stopped. There was a memo directing better shielding on the magnetograph to prevent its acting as an amplifier. Too much depended on accurate time measurement in the Institute to risk clock trouble.

'Well, I had nothing to lose. I set up the computer to run nanosecond-stop tests on the slides I'd prepared, subjecting them to various intensities of magnetic fields with the laser-magnet.

'It only took a week.

'At the right strength, at the precise second in the chromosome division, that same hydrogen atom reacted to the magnet by reversing its spin, drifting away from its nitrogen bond and moving into the new position as the field released it . . .

'What does a wild mouse know that a lab mouse does not? I didn't want to mess with dietetics; the field mouse knows of dangers that the lab mouse has had thousands of generations of forgetting. Lab mice ignore cats. In the archives I found a recording of the European woodlands at night, made in the days when it was still possible to pick up the sounds of nocturnal creatures going about their business: wind, the gnurr of hedgehog, the lower range of bat squeaks . . . I was alone in the lab when I played the recording to the three litters of mice I had prepared for this.

'Fourteen young ones, and their mothers. Nine of them continued their usual scuffling as the strange little sounds echoed in the room. Then, an owl hooted. Five small mice jerked high in the air and dived for cover under the placid dam.

'Axiom: DNA allows for infinite variation within its perimeters. Some times—at the coincidence of the reproduction of a certain twist in a helix with a peak of a solar cycle; some how—by the exposure of a dividing cell to a tiny increase in the magnetic field; and a memory of a previous existence is evoked . . . A man almost recalls a past he never lived. Scraps and bits, patched with learned history, and he is convinced he is a reincarnation. He can be called a fraud, but he will not believe it. It is enough that the pattern be repeated, to haunt the mind. Somewhere in the genetic history of that man that same pattern existed before, and he almost remembers. The Ming T'ang "felt right".

'And would it continue? Would those people's children remember?"



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The man finally lit the pipe again. 'No; how could they? When the chain parted again, it would resume the normal bonding. The only way it could happen would be by cloning.' He dropped the pipe suddenly. 'Oh my god.'

The boy sighed. 'You have told me several important things.'

Slowly, painfully, the professor said, 'I have given you the events of my life. I suppose that is of no importance.'

'Only to you . . . but we had not realized . . . several things. What happened to the girls?'

'I went to the Ming T'ang. Tea was ready.

"'We've been waiting every day."

"Oh, dear Ric, how good to see you." There was no absolution here. They took no offense.

And they did not inquire about the problem. They had lost interest. They had turned to the future, away from the past, however mysterious. They spoke of jobs, of meeting new people, of me, tenderly; I had become a memory.'

The professor fell silent. The student said, 'Is that the end of the story?'

'It's the end of my story.'

'But what happened to your discovery? And why did you quit the Institute?'

'Because I couldn't bear to stay there . . . Nyen-Hwa; they took names of their own, and moved on . . . I resigned. What good was my discovery? I knew how to provoke a random memory of a random ancestor in one creature; what use is that? I knew no more about memory than I did before. A complete waste of time. I quit the whole scene . . . I had lost my love; I had discovered with great effort an irrelevant phenomenon. Anstruther went on with his cloning games.

'I was tired . . . So I teach elementary biology. It's an existence.'

The student said, 'I thank you, sir. You have told me one thing of vital importance to us. We had not realized that we must remain celibate . . . we wouldn't be likely to have guessed it.' The young face took on an expression that chilled the professor; the word "obscene" crossed his mind. Staring, he said, 'What did you say your name was?'

The student rose, and bowed. He picked up the bill, and blinked at it. 'The world is in an odd position, as are we all . . . I'll give you the name we call ourselves.' He scribbled a signature on the notepad, ripped it out, and handed it to the tired man. 'Again, we thank you,' he said, and tossing his jacket over his shoulder, swiftly crossed the room. The door swung to behind him.

The professor picked up the scrap of paper. The signature was bold and clear: Machiavelli (Ventiquattro). ✱



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*Hammer's Slammers. They always win, no matter what the cost—or who pays it!*

DAVID DRAKE

# THE BUTCHER'S BILL



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"YOU CAN go a thousand kays any direction there and there's nothing to see but the wheat," said the brown man to the other tankers and the woman. His hair was deep chestnut, his face and hands burnt umber from the sun of Emporion the month before and the suns of seven other worlds in past years. He was twenty-five but looked several years older. The sleeves of his khaki coveralls were slipped down over his wrists against the chill of the breeze that had begun at twilight to feather the hillcrest. "We fed four planets from Dunstan—Hagener, Weststar, Mirage, and Jackson's Glade. And out of it we made enough to replace the tractors when they wore out, maybe something left over for a bit of pretty. A necklace of fireballs to set off a Lord's Day dress, till the charge drained six, eight months later. A static-cleaner from Hagener, it was one year, never quite worked off our powerplant however much we tinkered with it . . .

"My mother, she wore out too. Dad just kept grinding on, guess he still does."

The girl asked a question from the shelter of the tank's scarred curtain. Her voice was too mild for the wind's tumbling, her accent that of Thrush and strange to the tanker's ears. But Danny answered, "Hate them? Oh, I know about the Combine, now, that the four of them kept other merchants off Dunstan to freeze the price at what they thought to pay. But Via, wheat's a high bulk cargo, there's no way at all we'd have gotten rich on what it could bring over ninety minutes' transit. And why shouldn't I thank Weststar? If ever a world did me well, it was that one."

He spat, turning his head with the wind and lofting the gobbet invisibly into the darkness. The lamp trembled on its base, an overturned ration box. The glare skippered across the rusted steel skirts of the tank, the iridium armor of hull and turret; the faces of the men and the woman listening to the blower captain. The main gun, half shadowed by the curve of the hull, poked out into the night like a ghost of itself. Even with no human in the tank, at the whisper of a relay in Command Central the fat weapon would light the world cyan and smash to lava anything within line of sight of its muzzle.

"We sold our wheat to a Weststar agent, a Hindi named Sarim who'd lived, Via, twenty years at least on Dunstan but he still smelled funny. Sweetish, sort of; you know? But his people were all back in Ongole on Weststar. When the fighting started between the Scots and the Hindi settlers, he raised a battalion of farm boys like me and shipped us over in the hold of a freighter. Hoo Lordy, that was a transit!

"And I never looked back. Colonel Hammer docked in on the same day with the Regiment, and



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he took us all on spec. Six years, now, that's seven standard . . . and not all of us could stand the gaff, and not all who could wanted to. But I never looked back, and I never will."

From the mast of Command Central, a flag popped unseen in the wind. It bore a red lion rampant on a field of gold, the emblem of Hammer's Slammers; the banner of the toughest regiment that ever killed for a dollar.

"HOTEL, Kitchen, Mama, move to the front in company columns and advance."

The tiny adamantine glitter winking on the hilltop ten kays distant was the first break in the landscape since the Regiment had entered the hypothetical war zone, the Star Plain of Thrush. It warmed Pritchard in the bubble at the same time it tightened his muscles. "Goose it, Kowie," he ordered his driver in turn, "they want us panzers up front. Bet it's about to drop in the pot?"

Kowie said nothing, but the big blower responded with a howl and a billow of friable soil that seethed from under the ground effect curtain. Two Star in the lead, H Company threaded its way in line ahead through the grounded combat cars and a battalion from Infantry Section. The pongoes crouched on their one-man skimmers, watching the tanks. One blew an ironic kiss to Danny in Two Star's bubble. Moving parallel to Hotel, the other companies of Tank Section, K and M, advanced through the center and right of the skirmish line.

The four man crew of a combat car nodded unsmilingly from their open-topped vehicle as Two Star boomed past. A trio of swivel-mounted powerguns, 2 cm hoses like the one on Danny's bubble, gave them respectable firepower; and their armor, a sandwich of steel and iridium, was in fact adequate against most hand weapons. Buzzbombs aside, and tankers didn't like to think about those either. But Danny would have fought reassignment to combat cars if anybody had suggested it—Lord, you may as well dance in your skin for all the good that hull does you in a firefight! And few car crewmen would be caught dead on a panzer—or rather, were sure that was how they would be caught if they crewed one of those sluggish, clumsy, blind-sided behemoths. Infantry Section scorned both, knowing how the blowers drew fire but couldn't flatten in the dirt when it dropped in on them.

One thing wouldn't get you an argument, though: when it was ready to drop in the pot, you sent in the heavies. And nothing on the Way would stop the Tank Section of Hammer's Slammers when it got cranked up to move.

Even its 170 tonnes could not fully dampen the vibration of Two Star's fans at max load. The oval



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hull, all silvery-smooth above but of gouged and rusty steel below where the skirts fell sheer almost to the ground, slid its way through the grass like a boat through yellow seas. They were dropping into a swale before they reached the upgrade. From the increasing rankness of the vegetation that flattened before and beside the tank, Pritchard suspected they would find a meandering stream at the bottom. The brow of the hill cut off sight of the unnatural glitter visible from a distance. In silhouette against the pale bronze sky writhed instead a grove of gnarled trees.

"Incoming, fourteen seconds to impact," Command Central blatted. A siren in the near distance underscored the words. "Three rounds only."

The watercourse was there. Two Star's fans blasted its surface into a fine mist as the tank bellowed over it. Danny cocked his powergun, throwing a cylinder of glossy black plastic into the lowest of the three rotating barrels. There was shrieking overhead.

WHAM

A poplar shape of dirt and black vapor spouted a kay to the rear, among the grounded infantry.

WHAM WHAM

They were detonating underground. Thrush didn't have much of an industrial base, the rebel portions least of all. Either they hadn't the plant to build proximity fuses at all, or they were substituting interference coils for miniature radar sets, and there was too little metal in the infantry's gear to set off the charges.

"Tank Section, hose down the ridge as you advance, they got an OP there somewhere."

"Incoming, three more in fourteen." The satellite net could pick up a golf ball in flight, much less a four hundred pound shell.

Pritchard grinned like a death's head, laying his 2 cm automatic on the rim of the hill and squeezing off. The motor whirred, spinning the barrels as rock and vegetation burst in the blue-green sleet. Spent cases, gray and porous, spun out of the mechanism in a jet of coolant gas. They bounced on the turret slope, some clinging to the iridium to cool there, ugly dark excrescences on the metal.

"Outgoing."

Simultaneously with Central's laconic warning, giants tore a strip off the sky. The rebel shells dropped but their bursts were smothered in the roar of the Regiment's own rocket howitzers boosting charges to titanic velocity for the seven seconds before their motors burned out. Ten meters from the muzzles the rockets went supersonic, punctuating the ripping sound with thunderous slaps. Danny swung his hose toward the grove of trees, the only landmark visible on the hilltop. His burst laced it cyan. Water, flash-heated within the boles by the gunfire,



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blew the dense wood apart in blasts of steam and splinters. A dozen other guns joined Pritchard's, clawing at rock, air, and the remaining scraps of vegetation.

"Dead on," Central snapped to the artillery. "Now give it battery five and we'll show those freaks how they should've done it."

Kowie hadn't buttoned up. His head stuck up from the driver's hatch, trusting his eyes rather than the vision blocks built into his compartment. The tanks themselves were creations of the highest technical competence, built on Terra itself; but the crews were generally from frontier worlds, claustrophobic in an armored coffin no matter how good its electronic receptors were. Danny knew the feeling. His hatch, too, was open, and his hand gripped the rounded metal of the powergun itself rather than the selsyn unit inside. They were climbing sharply now, the back end hopping and skittering as the driver fed more juice to the rear fans in trying to level the vehicle. The bow skirts grounded briefly, the blades spitting out a section of hillside as pebbles.

For nearly a minute the sky slammed and raved. Slender, clipped-off vapor trails of counter-battery fire streamed from the defiladed artillery. Half a minute after they ceased fire, the drumbeat of shells bursting on the rebels continued. No further incoming rounds fell.

Two Star lurched over the rim of the hill. Seconds later the lead blowers of K and M bucked in turn onto the flatter area. Smoke and ash from the gun-lit brushfire shoomped out in their downdrafts. There was no sign of the enemy, either Densonite rebels or Foster's crew—though if the mercenaries were involved, they would be bunkered beyond probable notice until they popped the cork themselves.

"Tank Section, ground! Ground in place and prepare for director control."

Danny hunched, bracing his palms against the hatch coaming. Inside the turret the movement and firing controls of the main gun glowed red, indicating that they had been locked out of Pritchard's command. Kowie lifted the tow to kill the tank's immense inertia. There was always something spooky about feeling the turret purr beneath you, watching the big gun snuffle the air with deadly precision on its own. Danny gripped his tri-barrel, scanning the horizon nervously. It was worst when you didn't know what Central had on its mind . . . and you did know that the primary fire control computer was on the fritz—they always picked the damnedest times!

"Six aircraft approaching from two-eight-three degrees," Central mumbled. "Distance seven point ought four kays, closing at one one ought ought."

Pritchard risked a quick look



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away from where the gun pointed toward a ridgeline northwest of them, an undistinguished swelling half-obscured by the heat-wavering pall of smoke. Thirteen other tanks had crested the hill before Central froze them, all aiming in the same direction. Danny dropped below his hatch rim, counting seconds.

The sky roared cyan. The tank's vision blocks blanked momentarily, but the dazzle reflected through the open hatch was enough to make Pritchard's skin tingle. The smoke waved and rippled about the superheated tracks of gunfire. The horizon to the northwest was an expanding orange dome that silently dominated the sky.

"Resume advance." Then, "Spectroanalysis indicates five hostiles were loaded with chemical explosives, one was carrying fissionables."

Danny was trembling worse than before the botched attack. The briefing cubes had said the Densonites were religious nuts, sure. But to use unsupported artillery against a force whose satellite spotters would finger the guns before the first salvo landed; aircraft—probably converted cargo haulers—thrown against director-controlled powerguns that shot light swift and line straight; and then nukes, against a regiment more likely to advance stark naked than without a nuclear-damper up! They weren't just nuts—Thrush central government was that, unwilling to have any of its own people join the fighting—they were as crazy as if they thought they could breathe vacuum and live. You didn't play that sort of game with the Regiment.

They'd laager for the night on the hilltop, the rest of the outfit rumbling in through the afternoon and early evening hours. At daybreak they'd leapfrog forward again, deeper into the Star Plain, closer to whatever it was the Densonites wanted to hold. Sooner or later, the rebels and Foster's Infantry—a good outfit but not good enough for this job—were going to have to make a stand. And then the Regiment would go out for contact again, because they'd have run out of work on Thrush.

"She'll be in looking for you pretty soon, won't she, handsome?"

"Two bits to stay."

"Check. Sure, Danny-boy, you Romeos from Dunstant, you can pick up a slot anywhere, huh?"

A troop of combat cars whined past, headed for their position in the laager. Pritchard's hole card, a jack, flipped over. He swore, pushed in his hand. "I was folding anyway. And cut it out, will you? I didn't go looking for her, I didn't tell her to come back. And she may as well be the Colonel for all my chance of putting her flat."

Wanatamba, the lean, black



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Terran who drove Fourteen, laughed and pointed. A gold-spangled skimmer was dropping from the east, tracked by the guns of two of the blowers on that side. Everybody knew what it was, though. Pritchard grimaced and stood. "Seems that's the game for me," he said.

"Hey Danny," one of the men behind him called as he walked away. "Get a little extra for us, hey?"

The skimmer had landed in front of Command Central, at rest an earth-blended geodesic housing the staff and much of the commo hardware. Wearing a wrist-to-ankle sunsuit, yellow where it had tone, she was leaning on the plex windscreen. An officer in fatigues with unlatched body armor stepped out of the dome and did a double take. He must have recollected, though, because he trotted off toward a bunker before Danny reached the skimmer.

"Hey!" the girl called brightly. She looked about seventeen, her hair an unreal cascade of beryl copper over one shoulder. "We're going on a trip."

"Uh?"

The dome section flipped open again. Pritchard stiffened to attention when he saw the short, mustached figure who exited. "Peace, Colonel," the girl said.

"Peace, Sonna. You're such an ornament to a firebase that I'm thinking of putting you on requisition for our next contract."

Laughing cheerfully, the girl gestured toward the rigid sergeant. "I'm taking Danny to the Hamper Shrine this afternoon."

Pritchard reddened. "Sir, Sergeant-Commander Daniel Pritchard—"

"I know you, trooper," the Colonel said with a friendly smile. "I've watched Two Star in action often enough, you know." His eyes were blue.

"Sir, I didn't request—that is . . ."

"And I also know there's small point in arguing with our girl, here, hey Sonna? Go see your shrine, soldier, and worst comes to worst, just throw your hands up and yell 'Exchange.' You can try Col. Foster's rations for a week or two until we get this little business straightened out." The Colonel winked, bowed low to Sonna, and reentered the dome.

"I don't figure it," Danny said as he settled into the passenger seat. The skimmer was built low and sleek as if a racer, though its top speed was probably under a hundred kays. Any more would have put too rapid a drain of the rechargables packed into the decimeter-thick floor—a fusion unit would have doubled the flyer's bulk and added 400 kilos right off the bat. At that, the speed and an operating altitude of thirty meters were more than enough for the tanker. You judge things by what you're used to, and the blower cap-



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tain who found himself that far above the cold, hard ground—it could happen on a narrow switchback—had seen his last action.

While the wind whipped noisily about the open cockpit the girl tended to her flying and ignored Danny's curiosity. It was a hop rather than a real flight, keeping over the same hill at all times and circling down to land scarcely a minute after takeoff. On a field of grass untouched by the recent fire rose the multi-tented crystalline structure Pritchard had glimpsed during the assault. With a neat spin and a brief whine from the fans, the skimmer settled down.

Sonna grinned. Her sunsuit, opaquing completely in the direct light, blurred her outline in a dazzle of fluorescent saffron. "What don't you figure?"

"Well, ah . . ." Danny stumbled, his curiosity drawn between the girl and the building. "Well, the Colonel isn't that, ah, easy to deal with usually. I mean . . ."

Her laugh bubbled in the sunshine. "Oh, it's because I'm an Advisor, I'm sure."

"Excuse?"

"An Advisor. You know, the . . . well, a representative. Of the government, if you want to put it that way."

"My Lord!" the soldier gasped. "But you're so young."

She frowned. "You really don't know much about us, do you?" she reflected.

"Umm, well, the briefing cubes mostly didn't deal with the friendlies this time because we'd be operating without support . . . Anything was going to look good after Emporion, that was for sure. All desert there—you should've heard the cheers when the Colonel said that we'd lift."

She combed a hand back absently through her hair. It flowed like molten bronze. "You won on Emporion?" she asked.

"We could've," Danny explained, "even though it was really a Lord-stricken place, dust and fortified plateaus and lousy recce besides because the government only had two operating spacers. But the Monarchists ran out of money after six months and that's one sure rule for Hammer's Slammers—no pay, no play. Colonel yanked their bond so fast their ears rang. And we hadn't orbited before offers started coming in."

"And you took ours and came to a place you didn't know much about," the girl mused. "Well, we didn't know much about you either."

"What do you need to know except we can bust anybody else in this business?" the soldier said with amusement. "Anybody, public or planet-tied. If you're worried about Foster, don't; he wouldn't back the freaks today, but when he has to, we'll eat him for breakfast."

"Has to?" the girl repeated in puzzlement. "But he always has



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to—the Densonites hired him, didn't they?"

Strategy was a long way from Danny's training, but the girl seemed not to know that. And besides, you couldn't spend seven years with the Slammers and not pick up some basics. "OK," he began, "Foster's boys'll fight, but they're not crazy. Trying to block our advance in open land like this'd be pure suicide—as those coppy freaks—pardon, didn't mean that—must of found out today. Foster likely got orders to support the civvies but refused. I know for a fact that his arty's better'n what we wiped up today, and those *planes* . . ."

"But his contract . . .?" Sonna queried.

"Sets out the objectives and says the outfit'll obey civvie orders where it won't screw things up too bad," Danny said. "Standard form. The legal of it's different, but that's what it means."

The girl was nodding, eyes slitted, and in a low voice she quoted, ". . .'except in circumstances where such directions would significantly increase the risks to be undergone by the party of the second part without corresponding military advantage.'" She looked full at Danny. "Very . . . interesting. When we hired your colonel, I don't think any of us understood that clause."

Danny blinked, out of his depth and aware of it. "Well, it doesn't matter really. I mean, the Colonel didn't get his rep from ducking fights. It's just, well . . . say we're supposed to clear the Densonites off the, the Star Plain? Right?"

The girl shrugged.

"So that's what we'll do." Danny wiped his palms before gesturing with both hands. "But if your Advisors—"

"We Advisors," the girl corrected, smiling.

"Anyway," the tanker concluded, his enthusiasm chilled, "if you tell the Colonel to fly the whole Regiment up to ten thousand and jump it out, he'll tell you to go piss up a rope. Sorry, he wouldn't say that. But you know what I mean. We know our job, don't worry."

"Yes, that's true," she said agreeably. "And we don't, and we can't understand it. We thought that—one to one, you know?—perhaps if I got to know you, one of you . . . They thought we might understand all of you a little."

The soldier frowned uncertainly.

"What we don't see," she finally said, "is how you—"

She caught herself. Touching her cold fingertips to the backs of the tanker's wrists, the girl continued, "Danny, you're a nice . . . you're not a, a sort of monster like we thought you all must be. If you'd been born of Thrush you'd have had a—different—education, you'd be more, forgive me, I don't mean it as an insult, sophisticated in some ways. That's all."



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"But how can a nice person like you go out and kill?"

He rubbed his eyes, then laced together his long, brown fingers. "You . . . well, it's not like that. What I said the other night—look, the Slammers're a good outfit, the best, and I'm damned lucky to be with them. I do my job the best way I know, I'll keep on doing that. And if somebody gets killed, OK. My brother Jig stayed home and he's two years dead now. Tractor rolled on a wet field but Via, coulda been a tow-chain snapped or old age; doesn't matter. He wasn't going to live forever and neither is anybody else. And I haven't got any friends on the far end of the muzzle."

Her voice was very soft as she said, "Perhaps if I keep trying, . . ."

Danny smiled. "Well, I don't mind," he lied, looking at the structure. "What is this place, anyhow?"

Close up, it had unsuspected detail. The sides were a hedge of glassy rods curving together to a series of peaks ten meters high. No finger-slim member was quite the thickness or color of any other, although the delicacy was subliminal in impact. In ground plan it was a complex oval thirty meters by ten, pierced by scores of doorways which were not closed off but were foggy to look at.

"What do you think of it?" the girl asked.

"Well, it's . . ." Danny temporized. A fragment of the briefing cubes returned to him. "It's one of the alien, the Gedel, artifacts, isn't it?"

"Of course," the girl agreed. "Seven hundred thousand years old, as far as we can judge. Only a world in stasis, like Thrush, would have let it survive the way it has. The walls are far tougher than they look, but seventy millenia of earthquakes and volcanoes . . ."

Danny stepped out of the skimmer and let his hand run across the building's cool surface. "Yeah, if they'd picked some place with a hotter core there wouldn't be much left but sand by now, would there?"

"Pick it? Thrush was their home," Sonna's voice rang smoothly behind him. "The Gedel chilled it themselves to make it suitable, to leave a signpost for the next races following the Way. We can't even imagine how they did it, but there's no question but that Thrush was normally tectonic up until the last million years or so."

"Via!" Danny breathed, turning his shocked face toward the girl. "No wonder those coppy fanatics wanted to control this place. Why, if they could figure out just a few of the Gedel tricks they'd . . . Lord, they wouldn't stop with Thrush, that's for sure."

"You still don't understand," the girl said. She took Danny by the hand and drew him toward the



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nearest of the misty doorways. "The Densonites have, well, quirks that make them hard for the rest of us on Thrush to understand. But they would no more pervert Gedel wisdom to warfare than you would, oh, spit on your colonel. Come here."

She stepped into the fuzziness and disappeared. The tanker had no choice but to follow or break her grip; though, oddly, she was no longer clinging to him on the other side of the barrier. She was not even beside him in the large room. He was alone at the first of a line of tableaux, staring at a group of horribly inhuman creatures at play. Their sharp-edged faces, scale-dusted but more avian than reptile, stared enraptured at one of their number who hung in the air. The acrobat's bare, claw-tipped legs pointed 180° apart, straight toward ground and sky.

Pritchard blinked and moved on. The next scene was only a dazzle of sunlight in a glade whose foliage was redder than that of Thrush or Dunstan. There was something else, something wrong or strange about the tableau. Danny felt it, but his eyes could not explain.

Step by step, cautiously, Pritchard worked his way down the line of exhibits. Each was different, centered on a group of the alien bipeds or a ruddy, seemingly empty landscape that hinted unintelligibly. At first, Danny had noticed the eerie silence inside the hall. As


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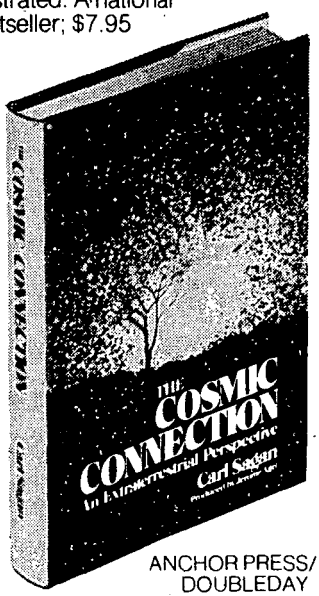


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he approached the far end he realized he was conscious of music of some sort, very crisp and distant. He laid his bare palm on the floor and found, as he had feared, that it did not vibrate in the least. He ran the last twenty steps to plunge out into the sunlight. Sonna still gripped his hand, and they stood outside the doorway they had entered.

The girl released him. "Isn't it incredible?" she asked, her expression bright. "And every one of the doorways leads to a different corridor—recreation there, agriculture in another, history—everything. A whole planet in that little building."

"That's what the Gedel looked like, huh?" Danny said. He shook his head to clear the strangeness from it.

"The Gedel? Oh, no," the girl replied, surprised again at his ignorance. "These were the folk we call the Hampers. No way to pronounce their own language, a man named Hamper found this site is all. But their homeworld was Kalinga IV, almost three days transit from Thrush. The shrine is here, we think, in the same relation to Starhome as Kalinga was to Thrush.

"You still don't understand," she concluded aloud, watching Danny's expression. She sat on the edge of the flyer, crossing her hands on the lap of her sunsuit. In the glitter thrown by the structure the fabric patterned oddly across her lithe torso. "The Gedel association—it wasn't an empire, couldn't have been. But to merge, a group ultimately needs a center, physical and intellectual. And Thrush and the Gedel were that for twenty races.

"And they achieved genuine unity, not just within one race but among all of them, each as strange to the others as any one of them would have been to man, to us. The . . . power that gave them, over themselves as well as the universe, was incredible. This—even Starhome itself—is such a tiny part of what could be achieved by perfect peace and empathy."

Danny looked at the crystal dome and shivered at what it had done to him. "Look," he said, "peace is just great if the universe cooperates. I don't mean just my line of work, but it doesn't happen that way in the real world. There's no peace spending your life beating wheat out of Dunstan, not like I'd call peace. And what's happened to the Gedel and their buddies for the last half million years or so if things were so great?"

"We can't even imagine what happened to them," Sonna explained gently, "but it wasn't the disaster you imagine. When they reached what they wanted, they set up this, Starhome, the other eighteen shrines as . . . monuments. And then they went away, all together. But they're not wholly



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gone, even from here, you know. Didn't you feel them in the background inside, laughing with you?"

"I . . ." Danny attempted. He moved, less toward the skimmer than away from the massive crystal behind him. "Yeah, there was something. That's what you're fighting for?"

You couldn't see the laager from where the skimmer rested, but Danny could imagine the silvery glitter of tanks and combat cars between the sky and the raw yellow grass. Her eyes fixed on the same stretch of horizon, the girl said, "Someday men will be able to walk through Starhome and understand. You can't live on Thrush without feeling the impact of the Gedel. That impact has . . . warped, perhaps, the Densonites. They have some beliefs about the Gedel that most of us don't agree with. And they're actually willing to use force to prevent the artifacts from being defiled by anyone who doesn't believe as they do."

"Well, you people do a better job of using force," Danny said harshly. His mind braced itself on its memory of the Regiment's prickly hedgehog.

"Oh, not us!" the girl gasped.

Suddenly angry, the tanker gestured toward the unseen firebase. "Not you? The Densonites don't pay us. And if force isn't what happened to those silly bastards today when our counter-battery hit them, I'd like to know what is."

She looked at him in a way that, despite her previous curiosity, was new to him. "There's much that I'll have to discuss with the other Advisors," she said after a long pause. "And I don't know that it will stop with us, we'll have to put out the call to everyone, the Densonites as well if they will come." Her eyes caught Danny's squarely again. "We acted with little time for deliberation when the Densonites hired Col. Foster and turned all the other pilgrims out of the Star Plain. And we acted in an area beyond our practice—thank the Lord! The key to understanding the Gedel and joining them, Lord willing and the Way being short, is Starhome. And nothing that blocks any man, all men, from Starhome can be . . . tolerated. But with what we've learned since . . . well, we have other things to take into account."

She broke off, tossed her stunning hair. In the flat evening sunlight her garment had paled to translucence. The late rays licked her body red and orange. "But now I'd better get you back to your colonel." She slipped into the skimmer.

Danny boarded without hesitation. After the Gedel building, the transparent skimmer felt almost comfortable. "Back to my tank," he corrected lightly. "Colonel may not care where I am, but he damn well cares if Two Star is combat ready." The sudden rush of air cut off thought of further conversation,



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and though Sonna smiled as she landed Danny beside his blower, there was a blankness in her expression that indicated her thoughts were far away.

Hell with her, Danny thought. His last night in the Rec Center on Emporion seemed a long time in the past.

AT THREE in the morning the Regiment was almost 200 kilometers from the camp they had abandoned at midnight. There had been no warning, only the low hoot of the siren followed by the Colonel's voice rasping from every man's lapel speaker, "Mount up and move, boys. Order seven, and your guides are set." It might have loomed before another outfit as a sudden catastrophe. After docking one trip with the Slammers, though, a greenie learned that everything not secured to his blower had better be secured to him. Col. Hammer thought an armored regiment's firepower was less of an asset than its mobility. He used the latter to the full with ten preset orders of march and in-motion recharging for the infantry skimmers, juicing from the tanks and combat cars.

Four pongoes were jumpered to Two Star when Foster's outpost sprang its ambush.

The lead combat car, half a kay ahead, bloomed in a huge white ball that flooded the photon amplifiers of Danny's goggles. The buzz-bomb's hollow detonation followed a moment later while the tanker, cursing, simultaneously switched to infra-red and swung his turret left at max advance. He ignored the head of the column, where the heated-air thump of powerguns merged with the crackle of bomblets kicked to either side by the combat cars; that was somebody else's responsibility. He ignored the two infantrymen wired to his tank's port side as well. If they knew their business, they'd drop the jumpers and flit for Two Star's blind side as swiftly as Danny could spin his heavy turret. If not, well, you don't have time for niceness when somebody's firing shaped charges at you.

"Damp that ground-sender!" Central snapped to the lead elements. Too quickly to be a response to the command, the grass trembled under the impact of a delay-fused rocket punching down toward the computed location of the enemy's subsurface signaling. The Regiment must have rolled directly over an outpost, either through horrendously bad luck or because Foster had sewn his vedettes very thickly.

The firing stopped. The column had never slowed and Mama, first of the heavy companies behind the screen of combat cars, fanned the grass fires set by the hoses. Pritchard scanned the area of the firefight as Two Star rumbled through it in turn. The antipersonal bomb-



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lets had dimpled the ground where they hit, easily identifiable among the glassy scars left by the power-guns. In the center of a great vitrified blotch lay a left arm and a few scraps of gray coverall. Nearby was the plastic hilt of a buzzbomb launcher. The other vedette had presumably stayed on the commo in his covered foxhole until the penetrator had scattered it and him over the landscape. If there had been a third bunker, it escaped notice by Two Star's echo sounders.

"Move it out, up front," Central demanded. "This cuts our margin."

The burned-out combat car swept back into obscurity as Kowie put on speed. The frontal surfaces had collapsed inward from the heat, leaving the driver and blower captain as husks of carbon. There was no sign of the wing gunners. Perhaps they had been far enough back and clear of the spurt of directed radiance to escape. The ammo canister of the port tri-barrel had flash-ignited, though, and it was more likely that the men were wasted on the floor of the vehicle.

Another hundred and fifty kays to go, and now Foster and the Densonites knew they were coming.

THERE were no further ambushes to break the lightless monotony of gently rolling grassland. Pritchard took occasional sips of water and ate half a tube of protein ration. He started to fling the tube aside, then thought of the metal detectors on following units. He dropped it between his feet instead.

The metal-pale sun was thrusting the Regiment's shadow in long fingers up the final hillside when Central spoke again. You could tell it was the Colonel himself sending. "Everybody freeze but Beta-First, Beta-First proceed in column up the rise and in. Keep your intervals, boys, and don't try to bite off too much. Last data we got was Foster had his anti-aircraft company with infantry support holding the target. Maybe they pulled out when we knocked on the door tonight, maybe they got reinforced. So take it easy—and don't bust up anything you don't have to."

Pritchard dropped his seat back inside the turret. There was nothing to be seen from the hatch but the monochrome sunrise and armored vehicles grounded on the yellow background. Inside, the three vision blocks gave greater variety. One was the constant 360° display, better than normal eyesight according to the designers because the blower captain could see all around the tank without turning his head. Danny didn't care for it. Images were squeezed a good deal horizontally. Shapes weren't quite what you expected, so you didn't react quite as fast; and that was a good recipe for a dead trooper. The screen above the three-sixty was variable in light sensitivity and in magnification, useful for special illumination and first-shot hits.



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The bottom screen was the remote rig; Pritchard dialed it for the forward receptors of Beta-First-Three. It was strange to watch the images of the two leading combat cars trembling as they crested the hill, yet feel Two Star as stable as 170 tonnes can be even when grounded.

"Nothing moving," the second leader reported unnecessarily. Central had remote circuits too, as well as the satellite net to depend on.

The screen lurched as the blower Danny was slaved to boosted its fans to level the down-grade. Dust plumed from the leading cars, weaving across a sky that was almost fully light. At an unheard command, the section turned up the wick in unison and let the cars hurtle straight toward the target's central corridor. It must have helped, because Foster's gunners caught only one car when they loosed the first blast through their camouflage.

The second car blurred in a mist of vaporized armor plate. Incredibly, the right wing gunner shot back. The deadly flame-lash of his hose was pale against the richer color of the hostile fire. Foster had sited his calliopes, massive 3 cm guns whose nine fixed barrels fired extra-length charges. Danny had never seen a combat car turned into swiss cheese faster than the one spiked on the muzzles of a pair of the heavy guns.

Gray-suited figures were darting from cover as if the cars' automatics were harmless for being outclassed. The damaged blower nosed into the ground. Its driver leaped out, running for the lead car which had spun on its axis and was hosing blue-green fire in three directions. One of Foster's troops raised upright, loosing a buzzbomb at the wreckage of the grounded car. The left side of the vehicle flapped like a batwing as it sailed across Danny's field of view. The concussion knocked down the running man. He rose to his knees, jumped for a handhold as the lead car accelerated past him. As he swung himself aboard, two buzzbombs hit the blower simultaneously. It bloomed with joined skullcaps of pearl and bone.

Pritchard was swearing softly. He had switched to a stern pickup already, and the tumbled wreckage in it was bouncing, fading swiftly. Shots twinkled briefly as the two escaping blowers dropped over the ridge.

"In column ahead," said the Colonel grimly, "Hotel, Killer, Mama. Button up and hose'em out, you know the drill."

And then something went wrong. "Are you insane?" the radio marveled, and Danny recognized that voice too. "I forbid you!"

"You can't. Somebody get her out of here."

"Your contract is over, finished, do you hear? Heavenly Way, we'll all become Densonites if we must.



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This horror must end!"

"Not yet. You don't see—"

"I've seen too—" The shouted words cut off.

"So we let Foster give us a bloody nose and back off? That's what you want? But it's bigger than what you want now, sister, it's the whole Regiment. It's never bidding another contract without somebody saying, 'Hey, they got sandbagged on Thrush, didn't they?' And nobody remembering that Foster figured the civvies would chill us—and he was right. Don't you see? They killed my boys, and now they're going to pay the bill.

"Tank Section, execute! Dig'em out, panzers!"

Danny palmed the panic bar, dropping the seat and locking the hatch over it. The rushing-air snarl of the fans was deadened out by the armor, but a hot bearing somewhere filled the compartment with its high keening. Two Star hurdled the ridge. Its whole horizon flared with crystal dancing and scattering in sunlight and the reflected glory of automatic weapons firing from its shelter. Starhome was immensely larger than Danny had expected.

A boulevard twenty meters wide divided two ranks of glassy buildings, any one of which, towers and pavillions, stood larger than the shrine Danny had seen the previous day. At a kilometer's distance it was a corruscating unity of parts as similar as the strands of a silken rope. Danny rapped up the magnification and saw the details spring out; rods woven into columns that streaked skyward a hundred meters; translucent sheets formed of myriads of pinhead beads, each one glowing a color as different from the rest as one star is from the remainder of those seen on a moonless night; a spiral column, free-standing and the thickness of a woman's wrist, that pulsed slowly through the spectrum as it climbed almost out of sight. All the structures seemed to front on the central corridor, with the buildings on either side welded together by tracery mazes, porticoes, arcades—a thousand different plates and poles of glass.

A dashed cyan line joined the base of an upswept web of color to the tank. Two Star's hull thudded

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to the shock of vaporizing metal. The stabilizer locked the blower's pitching out of Danny's sight picture. He swung the glowing orange bead onto the source of fire and kicked the pedal. The air rang like a carillon as the whole glassy facade sagged, then avalanched into the street. There was a shock of heat in the closed battle compartment as the breech flicked open and belched out the spent case. The plastic hissed on the floor, outgassing horribly while the air-conditioning strained to clear the chamber. Danny ignored the stench, nudged his sights onto the onrushing splendor of the second structure on the right of the corridor. The breech of the big powergun slapped again and again, recharging instantly as the tanker worked the foot trip.

Blue-green lightning scattered between the walls as if the full power of each bolt was flashing the length of the corridor. Two Star bellowed in on the wake of its fire, and crystal flurried under the fans. Kowie leveled their stroke slightly, cutting speed by a fraction but lifting the tank higher above the abrasive litter. The draft hurled glittering shards across the corridor, arcs of cold fire in the light of Two Star's gun and those of the blowers following. Men in gray were running from their hiding places to avoid the sliding crystal masses, the iridescent rain that pattered on the upper surfaces of the tanks but smashed jaggedly through the infantry's body armor.

Danny set his left thumb to rotate the turret counter-clockwise, held the gun-switch down with his foot. The remaining sixteen rounds of his basic load blasted down the right half of Starhome, spread by the blower's forward motion and the turret swing. The compartment was gray with fumes. Danny slammed the hatch open and leaned out. His hands went to the 2 cm as naturally as a calf turns to milk. The wind was cold on his face. Kowie slewed the blower left to avoid the glassy wave that slashed into the corridor from one of the blasted structures. The scintillance halted, then ground a little further as something gave way inside the pile.

A soldier in gray stepped from an untouched archway to the left. The buzzbomb on his shoulder was the size of a landing vessel as it swung directly at Danny. The tri-barrel seemed to traverse with glacial slowness. It was too slow. Danny saw the brief flash as the rocket leaped from the shoulder of the other mercenary. It whirred over Two Star and the sergeant, exploded cataclysmically against a spike of Starhome still rising on the other side.

The infantryman tossed the launcher tube aside. He froze, his arms spread wide, and shouted, "Exchange!"

"Exchange yourself, mother!"



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Danny screamed back white-faced. He triggered his hose. The gray torso exploded. The body fell backward in a mist of blood, chest and body armor torn open by four hits that shriveled bones and turned fluids to steam.

"Hard left and goose it, Kowie," the sergeant demanded. He slipped the panic bar again. As the hatch clanged shut over his head, Danny caught a momentary glimpse of the vision blocks, three soldiers with powerguns leaping out of the same towering structure from which the rocketeer had come. Their faces were blankly incredulous as they saw the huge blower swinging toward them at full power. The walls flexed briefly under the impact of the tank's frontal slope, but the filigree was eggshell thin. The structure disintegrated, lurching toward the corridor while Two Star plowed forward within it. A thousand images kaleidoscoped in Danny's skull, sparkling within the windchime dissonance of the falling tower.

The fans screamed as part of the structure's mass collapsed onto Two Star. Kowie rocked the tank, raising it like a submarine through a sea of ravaged glass. The gentle, green-furred humanoids faded from Danny's mind. He threw the hatch open. Kowie gunned the fans, reversing the blower in a polychrome shower. Several tanks had moved ahead of Two Star, nearing the far end of the corridor. Gray-uniformed soldiers straggled from the remaining structures, hands empty, eyes fixed on the ground. There was very little firing. Kowie edged into the column and followed the third tank into the laager forming on the other side of Starhome. Pritchard was drained. His throat was dry, but he knew from past experience that he would vomit if he swallowed even a mouthful of water before his muscles stopped trembling. The blower rested with its skirts on the ground, its fans purring gently as they idled to a halt.

Kowie climbed out of the driver's hatch, moving stiffly. He had a powergun in his hand, a pistol he always carried for moral support. Two Star's bow compartment was frequently nearer the enemy than anything else in Hammer's Slammers.

Several towers still stood in the wreckage of Starhome. The nearest one wavered from orange to red and back in the full blaze of sunlight. Danny watched it in the iridium mirror of his tank's deck, the outline muted by the hatchwork of crystal etchings on the metal.

Kowie shot off-hand. Danny looked up in irritation. The driver shot again, his light charge having no discernable effect on the structure.

"Shut it off," Danny croaked. "These're shrines."

The ground where Starhome had stood blazed like Hell. ★



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A STEP FARTHER OUT

SCIENCE FACT

# HERE COME THE BRAINS

JERRY POURNELLE, Ph.D.

Robots are a favorite science fiction theme. Another is the great computer, much smarter than a man, which one way or another takes over the world. Machine intelligence fascinates us.

Comparatively fewer stories deal with enhanced intelligence, mostly because that's very hard work: how do you write about a character who is much smarter than you are? One theme I've been working on for two years involves implants: you take a small transceiver and put it into a human head (or elsewhere in the anatomy if you like), wiring up the output of the receiver into the auditory nerve.

Now you have someone who can communicate by a kind of telepathy; let's put a really big computer at the other end of the system. In theory, at least, every bit of information known to mankind will be instantly available to this "terminal man."

Dossiers; reference books; dictionaries; encyclopedias; all the data banks of the government, IRS files, etc., can be his for the asking. A detective could get continuous information on the whereabouts of his colleagues on the force, or continuous information about burglaries in progress, or whatever.

There'd be more: all the mathematics capability of powerful computers would be available in real time. Solve integral equations in your head, calculus of finite motion, stock market predictions, etc., all are instantly yours at a thoughts.

It's not all that far-fetched. I've spoken with both computer specialists and neurosurgeons who think the first use of gadgetry like that may very well come before the end of the century. The stumbling block at the moment involves the language you'd use to communicate with computers, and no one expects that to take too long to solve. Voice communication with a computer in ordinary English is probably coming within the decade (there are limited cases of that going on right now), and once *that's* available, comes first the walkie-talkie computer terminal, then the implant. Neither of those is beyond present state-of-the-art.

Unfortunately, it's *very* difficult to think like a man who has a



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360/95 in his head, and my story has dragged a bit while I give this more thought. I don't recall too many memorable stories in which real geniuses were the viewpoint characters, probably for the same reason I'm having trouble. Of the two that impressed me most, *Flowers For Algernon* and Ted Sturgeon's *Maturity*, the central character lost the genius ability before the story ended.

Still, if there's a mental hookup to a computer in the future of some of the younger readers of this column—and there probably is—there's another possibility also. A robot can be connected to the central brain, and of course there have been a *lot* of stories on that theme.

All in all, it may not be long before electronics gives us a number of very smart characters, both human and mechanical, to deal with, provided no one jams their data link-ups.

THERE'S another approach, though, that may be just as exciting: we may be on the way to *real* robots: self-contained, not relying on any kind of link with a central data bank although able to use one if it's available; very strong; and capable of independent action if not thought. Again, the mechanics are simple enough. The robot itself could be constructed today. What's missing is the brain.

The human brain weighs, on average, about 1.48 kilograms, or 3-1/4 pounds, in the mature male. That little chunk of matter can store some *one millon billion* bits of information, which is quite a lot; the best computers don't have anything approaching that capability, and they're *big*.

Computers are getting smaller all the time, of course; I remember back in the early fifties visiting the ILIAC at the University of Illinois, then the biggest computer in the world. It was housed in a gymnasium-sized building with the world's largest air-conditioner, and three undergraduates were employed full-time running around in ILIAC's innards to replace burned-out vacuum tubes. Nowadays you can get the old ILIAC's memory capacity inside my desk.

Still, with all the micro-chip technologies we have today, the human brain remains the most efficient data-storage system ever built. It isn't as reliable as we'd like it to be, but it's very good at packing data into a small space and getting it back out quickly.

It has another characteristic that's very useful: the information doesn't seem to be stored in any specific place. Karl Lashley, after 30 years of work trying to find the engram—the exact site of any particular memory—gave up. All of our memories seem to be stored all over our brains.

That is: Lashley, and now others, train specific reflexes and memory



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patterns into experimental animals, then extirpate portions of their brains. Take out a chunk here, or a chunk there: surely you'll get the place where the memory is stored if you keep trying, won't you?

No. Short of killing the animal, the memory remains, even when up to 90% of the cortical matter has been removed. Lashley once whimsically told a conference that he'd just demonstrated that learning isn't possible.

The experiment has been duplicated a number of times, and the evidence of human subjects who've had brain damage as a result of accidents confirms it: our various memories are stored, not in one specific place, but in a lot of places; literally, all over our cortices. That's got to be a clue to how the brain works.

A second characteristic of the brain is that it's *fast.* Consider visual stimulation as an example. You see an unexpected object. You generally don't have to stop to think what it is: a hammer, a saucer, a pretty girl, the Top Sergeant, an ice cream cone, a saber-toothed tiger about to spring, or whatever; you just *know,* and know very quickly.

Yet the brain had to take the impulses from the light pattern on the retina and do something with them. What? Introspection hints that a number of trial and error operations were conducted: "test" patterns were compared with the stimulus object, until there was a close correspondence, and then the "aha!" signal was sent. If, somehow, the "aha!" was sent up for the wrong test pattern, it takes conscious effort to get rid of that and "see" the stimulus as it should be seen.

We're still trying to teach computers to recognize a small number of very precisely drawn patterns, yet yesterday I met a man I hadn't seen for ten years and didn't know well then, and recognized him instantly. Dogs and cats automatically do what we sweat blood to teach to computers. If only we could figure out how the brain does it . . .

A number of neuro-scientists think they've found the proper approach at last. It's only a theory, and it may be all wrong, but there is now a lot of evidence that the human brain works like a hologram. Even if that isn't how *our* internal computer works, a holographic computer could, at least in theory, store information as compactly and retrieve it as rapidly as the human brain, and thus make possible the self-contained robots dear to science fiction.

THE first time Dr. David Goodman proposed the holographic brain model to me, I thought he'd lost his mind. Holograms I understood: you take a laser beam and shine part of it onto a photographic plate, while letting the rest fall on



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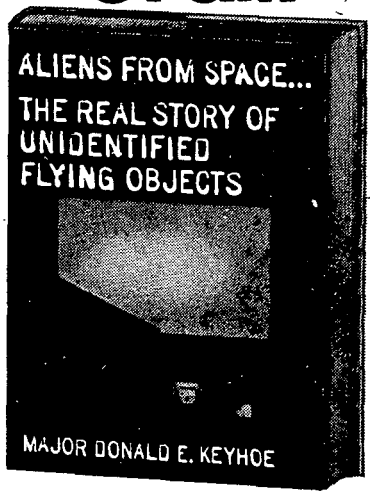
an object and be reflected off the object onto the film. The result is a messy interference pattern on the film that, when illuminated with coherent light of the proper frequency, will reproduce an image of the object. Marvelous and all that, but there aren't any laser beams in our heads. It didn't make sense.

Well, of course it does make sense. There's no certainty that holography is the actual mechanism for memory storage in human beings, but we *can* show the mechanism the brain might use to do it that way. First, though, let's look at some of the characteristics of holograms.

They've been around a long time, to begin with, and they don't need lasers. Lasers are merely a rather convenient (if you're rich enough to afford them) source of very coherent light. If you don't have a laser, a monochromatic filter will do the job nicely, or you can use a slit, or both.

A coherent light beam differs from ordinary light in the same way that a platoon of soldiers marching in step differs from a mob running onto the field after the football game. The light is all the same frequency (marching in step) and going in the same direction (parallel rays). Using any source of coherent light to make a hologram of a single point gives you a familiar enough thing: a Fresnel lens, which looks like a mess of concentric circles. Holography was around as


The biggest coverup of all!




"If Major Keyhoe's book didn't sufficiently substantiate his claim that the United States Air Force knows that UFOs are spacecraft from a more advanced world—and is deliberately concealing the truth from the public by censoring reports and discrediting witnesses—this somber warning might sound a trifle ridiculous. But it rings disturbingly true."
—*Christian Science Monitor.*

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"lenseless photography" back before WW II.

As soon as you have several points, the neat appearance vanishes, of course. A hologram of something complicated, such as several chessmen or a group of toy soldiers, is just a smeared film with strange patterns on it.

Incidentally, you can buy holograms from Edmund Scientific or a number of other sources, and they're fascinating things. I've even seen one of a watch with a magnifying glass in front of it. Because the whole image, from many viewpoints, is stored in the hologram, you can move your head around until you see the watch *through* the image of the magnifying glass—and then you can read the time. Otherwise the watch numerals are too small to see.

Hmm. Our mental images have the property of viewpoint changes; we can recall them from a number of different angles.

Another interesting property of holograms is that any significant part of the photographic plate contains the *whole* picture. If you want to give a friend a copy of your hologram, simply snip it in half; then you've both got one. He can do the same thing, of course, and so can the guy he gave his to. Eventually, when it gets small enough, the images become fuzzy; acuity and detail have been lost, but the whole image is still there.

That sounds suspiciously like the results Lashley got with his brain experiments, and also like reports from soldiers with severe brain tissue losses: fuzzy memories, but all of them still there. (I'll come back to that point and deal with aphasias and the like in a moment.)

Holograms can also be used as *recognition filters.* Let us take a hologram of the word "Truth" for example, and view a page of print through it. Because the hologram is blurry, we can't read the text: BUT, if the word "truth" is on that page, whether it's standing alone or embedded in a longer word, you will see a very bright spot of light at the point where the word will be found when you remove the filter.

The printed word can be quite different from the one used to make the hologram, by the way. Different type fonts can be employed, and the letters can be different sizes. The spot of light won't be as bright or as sharp if the hologram was made from a type font different from the image examined, but it will still be there, because it's the *pattern* that's important.

The Post Office is working on mail-sorting through use of this technique. Computers can be taught to recognize patterns this way. The police find it interesting too: you can set up a gadget to watch the freeways and scream when it sees a 1964 Buick, but ignore everything else; or examine license plates for a particular number.



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There's another possibility. Cataracts are caused by cloudy lenses. If you could just manage to make a hologram of the cataracted lens, you could, at least in theory, give the sufferer a pair of glasses that would compensate for his cataracts. That technique isn't in the very near future, but it looks promising.

You'll have noticed that this property of holograms sounds a bit like the brain's pattern-search when confronted with an unfamiliar object. A large number of test patterns can be examined "through" a hologram of the stimulus object, and one will stand out.

Brain psysiologists have found another property of the brain that's similar to a holographic computer. The brain appears to perform a Fourier transform on data presented to it; and holograms can be transmitted through Fourier-transform messages.

A Fourier transform is a mathematical operation that takes a complex wave form, pattern, signals, or what have you, and breaks it down into a somewhat longer, but precisely structured, signal of simpler frequences. If you have a very squiggly line, for example, it can be turned into a string of numbers and transmitted that way, then be reconstructed exactly. The brain appears to make this kind of transformation of data.

Once a message (or image, or memory) is in Fourier format, it's easy systematically to compare it with other messages, because it is patterned into a string of information; you have only to go through those whose first term is the same as your unknown, ignoring all the millions of others; then find those with similar second terms, etc., until you've located either the proper matching stored item, or one very close to it. If our memories are stored either in Fourier format or in a manner easily converted to that, we've a mechanism for the remarkable ability we have to recognize objects so swiftly.

So. It would be convenient if the brain could manufacture holograms; but can it, and does it?

It *can*: that is, we can show a mechanism it could use to do it. Whether it does or not isn't known, but there don't appear to be any experiments that absolutely rule out the theory.

There are rhythmic pulses in the brain that radiate from a small area: it's a bit like watching ripples from a stone thrown into a pond. Waves or ripples of neurons firing at precise frequencies spread through the cerebrum. These, of course, correspond to the "laser" or coherent light source of a hologram. Beat them against incoming impulses and you get an electrical/neuron-firing analog of a hologram.

Just as you can store thousands



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of holograms on a single photographic plate by using different frequences of coherent light for each one, so could the brain store millions of billions of bits of information by using a number of different frequences and sources of "coherent" neuron impulses.

That model also makes something else a bit less puzzling: selective loss of memory. Older people often retain very sharp memories for long-past events, while losing the ability to remember more recent things; perhaps they're losing the ability to come up with new coherent reference standards. Some amnesiacs recall nearly everything in great detail, yet can't remember specific blocks of their life: the loss or scrambling of certain "reference standards" would tend to cause *en bloc* memory losses without affecting other memories at all.

Aphasias are often caused by specific brain-structure damage. I have met a man who can write anything he likes, including all his early memories; but he can't talk. A brain injury caused him to "forget" how. It's terribly frustrating, of course. It's also hard to explain, but if the brain uses holographic codes for information storage, then the encoder/decoder must survive for that information to be recovered. A sufficiently selective injury might well destroy one decoder while leaving another intact.

In other words, the model fits a great deal of known data. Farther than that no one can go. The brain *could* use holograms.

Not very long ago, Ted Sturgeon, A. E. van Vogt, and I were invited to speak to the Los Angeles Cryonics Society. That's the outfit that arranges to have people quick-frozen and stored at the temperature of liquid nitrogen in the hopes that someday they can be revived in a time when technology is sufficiently advanced to be able to cure whatever it was that killed them to begin with.

I chose to give my talk on the holographic brain model. The implications weren't very encouraging for the Cryonics Society.

If the brain uses holographic computer methods, then the information storage is probably *dynamic*, not static; and even if a frozen man could be revived, since the electrical impulses would have been stopped, he'd have no memories, and thus no personality. If the holographic brain model is a true picture, it's goodbye to that particular form of immortality.

On the other hand, whether our own brains use holograms or not, holographic computers almost undoubtedly will work: and the holographic information storage technique offers us a way of construct those independent robots that figure so large in science fiction stories. Either way, it looks as if the big brains may be coming before the turn of the century. ★



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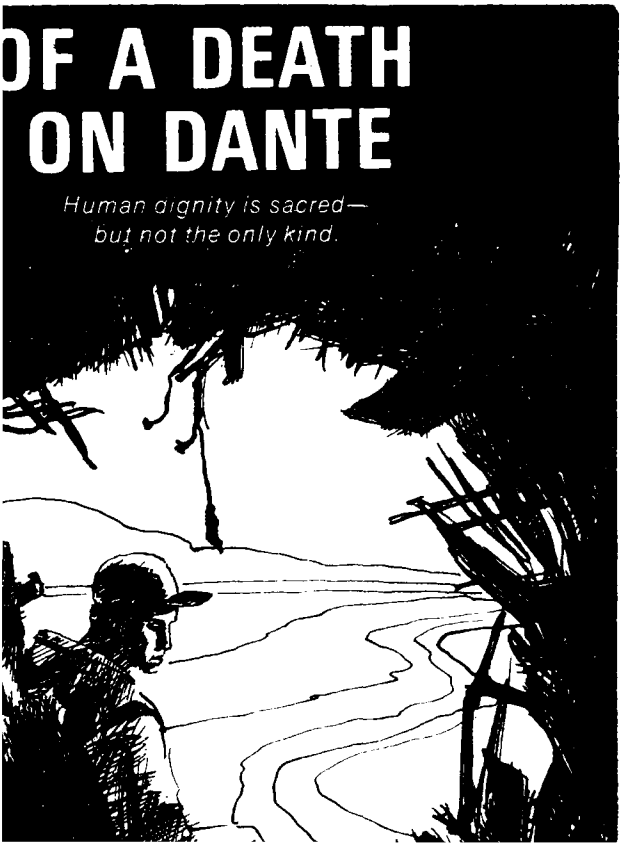


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# PETER D. AMBROSE

The heat drilled into the back of Phillips' neck. He could feel it boring into his brain like some absurd earwig. The notion struck him as somehow amusing and he smiled, tugging down the visor of his cap. Sweat and dirt had dulled the embroidered bullion into a sullied brown. Moisture beaded his upper lip and dripped from the peaks of his nose and brows. His lips cracked as he smiled and dried blood flaked onto his teeth.

The smile filled with gritty brown sand and he spat, turning away from a capricious gust of desert wind. He stumbled down the sage-choked arroyo toward his craft.

The eddy of wind moved across the cracking soil and he leaned forward, glancing at a distant horizon filled with blue mountains and gray clouds.

He slid down to the sand beside his shattered vessel, studying his companion inside the darkened hull.

"How's it going?" he asked stupidly.

"Not too bad," crackled the answer from the Translator on Phillips' hip, his companion unable to speak English.

"We should try and get to the mountains."

"No. Rest. Wait." The Translator's electronic voice approximated that of its subject.

Phillips straightened his shoulders. "We'll die here." He stood and scratched at the peeling skin of the ship, listening to the subliminal homing signal pulsing outward from the crash area.

"*We* won't."

"I've got to keep you alive."

"*You've* got to live."

"That's not what the book says."

"I know."

The man whirled. "There must be *some* chance!" he cried. "As a Controller/Explorer Team I should think the two of us might be able to do *something!*"

"Explorer," said the Translator softly, "we must wait. Remain as cool as possible." The man's companion saw perspiration on his forehead. "You need water . . ."

Phillips shook his head. "No. You need it much more—"

"I won't argue, Explorer."

Phillips stood motionless for a moment, then moved into the ship. It was quiet with the Controller's presence, his companion, and he walked softly to the supplies. He swallowed the water deeply, an angry expression on his face.

"Now a Nutrient-A capsule . . ."

"You need those too," answered Phillips.



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"A C/E Team could never hope to function efficiently with one member starving himself," returned the Controller.

Phillips gulped down the capsule and fell onto the command-sofa in the compartment. Sighing, he stared at the mountains through the shredded hole where the nose of the ship once was. The Controller dropped into silence and the Explorer listened intently to the reassurance drifting through his mind. Although the psychic bond between Controller and Explorer very seldom went beyond general expressions of emotion, the entire program was based on that very rare talent that enabled the two beings to communicate. The Translator did as its name implied, but the bond made the team, and even now Phillips felt fortunate to have been selected for a C/E Team. He knew he would not be alive now had he been a solitary individual "out there."

HE CLOSED his eyes and saw the interior of his patrol craft, panels and computer grids popping into his mind like soap bubbles, and he thought back . . .

A light was blinking red and white in a central console. "Phillips, you've got a bleed-off light on Number Two Fuel Bypass," said the Controller from a tele-screen. The Explorer looked up from an old film and reached across for the toggle beneath the light and said, "Sorry. Didn't see it."

He tugged the switch and heard a muffled roar, quick, sounding more like a thump against the skin of the ship than an explosion. "Flare-up in the Bypass, Phillips," said the Controller, consulting a sensor monitor. Phillips sat straight, ignoring the film. "Bad?"

The Controller switched a screen on the man's panel and he saw an image awash with white vapour trailing into space. "You can see there," said the Controller.

"We're losing it," muttered Phillips.

"I'm afraid so. Inertial systems will go within the hour. I'm already losing telemetry from Base."

"Recommendations?"

The Controller consulted his computer scans. "Planet *Dante*. If we reach it in a reasonable amount of time Planetfall can be made without *much* problem." The man's eyebrows rose in question. "As of now," said the Controller, "chances are fair. I expect them to be poor by the time we reach the planet."

"You're confident we can make it?" asked Phillips, staring into the screen above his console. "I'm feeding your Library Grid Environmental Data now," answered the Controller.

The Explorer read the glowing characters aloud: "Surface temperature over seventy-five percent of the planet greater than fifty degrees



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centigrade . . ."

"At nightfall it drops down to a comfortable forty-five," observed the Controller wryly. "What few mountain ranges there are approximate more temperate earth conditions. Unfortunately, the shorelines are wholly inaccessible."

The monitor screens began to flicker, the ship losing electrical control, soon to be dead in space. "Marvelous," sighed Phillips, leaning back in the command-sofa. "Are you okay back there?"

Dark eyes met his from the scanner. "I'm relatively safe for the time being . . ."

"I think both of us should get into the escape-shuttle and—"

"The escape-shuttle was carried away by debris," interrupted the Controller.

Phillips pursed his lips. "*Dante* coming into scanner range now," said the Controller, consulting an indicator screen.

"Nat, are inertial systems going to be able to handle this?" asked Phillips, casting a harried gaze over intermittently blinking panels and lights.

"I'll need your help . . ." answered the Controller, the image of *Dante* growing on four monitor screens. Phillips nodded and shut off the still-running film.

Before the craft screamed into *Dante's* atmosphere, they launched an orbiting distress beacon, radio transmissions useless across the light years. The leading edges of the ship were glowing crimson as Phillips watched the blip of the distress beacon until the radar *popped* and went dark. The cabin began to shudder, overhead light elements crackling out, the blue of emergency lanterns sputtering on. The man ran his fingers across rows of buttons. The shuddering continued to increase. "Nat, I can't hold it . . ."

The Controller's screen was dark but audio facilities hadn't failed: "Worse . . . than I expected . . . If it's still on, punch up System 476-H, will you?" The voice was a gasp. Phillips searched his panels. One navigation sector was still alive. He punched up 476-H. It held. "Thanks," said the Controller. Phillips smiled nervously, the vibration shaking his teeth. It grew hotter in the cabin and he strained against the pull of rising *g's*. Metal surfaces were hot beneath his hands and he smelled burning plastic. Suddenly the emergency lights shorted out and he was in darkness.

"Nat!"

The shuddering reached an intense peak and fingers of flame waved about the cabin. Phillips choked in the acrid smoke. "Nat!" he coughed. "Nat!" The howl of reentry filled his ears and his eyes burned with hot tears. The flames grew. He attempted to pull himself onto the deck and was thrown onto his back and into unconsciousness . . .



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GRAINS of sand scratched his eyes when he awoke. Blinking, he rolled carefully onto his stomach. Nothing felt broken. He studied the surface of *Dante*, shifting and blowing sand, the mountains painfully distant. He stood, looking about. Pain lanced through his hip and he limped across to the broken craft, clouds of sand billowing before him. Although pieces of the vessel were scattered over the better part of an acre, the main cabin had remained remarkably intact. He realized he had been thrown clear when the main escape hatch had blown open on impact. He looked through the fuselage, smoke still fouling the air. Leaning against a scorched bulkhead, he listened to the sand hissing over the craft's hull and wondered what had become of the Controller. Moving from the cabin he looked about intently. Nat had made planetfall. *Something* would be about, even if he was spread over an acre of desert.

"Phillips?"

The Translator amplification of the weakened voice widened the man's face into a grin and he looked about the ship. He saw the cylinder of the pocket-Translator upright in the sand and reached down for it, saying, "I'm here, Nat! We made it!"

"It would seem so," answered the Controller, his voice faint even through the speaker. Phillips walked back into the ship. "Where . . . where are you?" he asked.

"Here," squeeked Nat, pushing aside a blackened panel with his head. Even though there was an eternal anthropormorphic smile on his face, there was irritation in the twitters and whistles of the bottle-nosed dolphin's voice, precious saline solution dribbling from his ruptured tank . . .

"Phillips!"

The Explorer shook his head. Memories fled from his mind with the wind. He turned on the command-sofa.

The Controller lifted his head above the level of dirty water in the small tank. "You're daydreaming," the Translator made the reedy whistles of the dolphin understandable.

"Thinking," answered Phillips, his tongue translated through the collar on the dolphin's neck.

"About the crash?"

Phillips didn't answer, the Controller sensing his guilt. "There was nothing we could've done. . ."

"Had I been more alert—" mused Phillips, wiping sweat from his bleary eyes.

"—And I more capable, we would've set down perfectly on one of those mountain-tops out there," returned the Controller brusquely. "Phillips, one can only do so much in a situation such as ours."

The man was unconvinced. "It doesn't look very good, Nat." He regarded the small cache of salvag-



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ed water and food above the tank.

"We'll make it."

"Your Cetatean intuition tell you that?" asked the Explorer.

"You know we have that ability."

"I know." Phillips' voice was bitter with frustration.

"With the ship as banged-up as it was, we're lucky to be alive."

"What do they say about any landing you can walk away from?" queried Phillips.

"I'm not walking," answered Nat, a smile in his voice. Phillips laughed at the joke, his despair drying in the wind and the Controller's electronically channeled voice crackling through the Translator.

The man continued to laugh, reflecting upon the tragi-comic plight of one of the most valuable teams in space exploration: he, laying about in the long-underwear-lining of his space-suit, baseball cap tugged over his ears, and his companion crammed into a too-small survival tank at his back. And all of this on a desert world; *with no sunglasses* . . .

He reached across to the shattered frames on the main ship's console. He picked them up gingerly and studied the falling pieces of gray, polarized lenses; pieces too small even to be patched together. Hearing Nat issue a sigh through the Translator, he stopped laughing and they both fell silent.

He began to sing after a long while, his voice a whisper above the breeze, growing louder as he went on. Presently Nat joined him in a squeeky falsetto and they harmonized sourly through the chorus of *I've Been Workin' on the Railroad.*

Toward the conclusion of the song Nat fell silent and the hiss of the Translator accompanied Phillips' last words. "What is it?" he asked.

"Sandstorm," answered the Controller. "Coming this way. Approximately fifty miles per hour . . ." Phillips scanned the flattened earth and saw the low cloud of wind and sand, crawling toward them like a living creature. All about the wreckage was eerie calm. The Explorer looked through the perforated ship for cover.

"There isn't any," said Nat. "It will pass over us. You'll be exposed for at least two full minutes . . ." Moving quickly, Phillips moved the supplies and precious water into a small locker, attempting to bend the twisted metal closed, succeeding only partially. He looked toward the cloud. It was growing and a ground-hugging breeze fluttered the legs of his clothing. He checked the seals on the Controller's tank. "Never mind about that," said the dolphin. "I'll be all right. Stay out of the wind as best as you can, and watch the sand doesn't cover you over."

"What about you?" asked Phillips, blinking against the blowing sand.



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"If I'm buried," answered the Controller, "you'll have to dig me out. I've my own atmosphere in here."

"But not indefinitely!" cried Phillips.

"Which is why you can't let yourself be covered over! HERE IT COMES!" Phillips switched off the Translator and tucked it into his suit, pulling all the zippers closed. He pulled his hat down over his eyes and pulled the helmet seal from his collar, covering his nose and mouth. The material was wet with perspiration and cool against his face. He crouched beneath the leading edge of the main panel, his body pressed against the bulkhead. He looked toward the tank and saw Nat staring at him intently.

And the storm was there.

THE heat and tremendous wind burned the metal zippers into his chest and he gasped with pain, his sigh ripped away in the screaming gale. Sand and rocks pitched around him and a heavy stone collided with his arm. He lifted his hand and the wind slapped it down. Even huddled under the console he felt sand shifting beneath him and rising over his body. He leaned out toward the tank and fell to the earth, sand covering his face. He reached out scrabbling hands, burning with the sand and heat. He felt nothing but the ragged pain of his cut and torn fingers.

On his stomach the sand marched over his back, pinning his chest onto the hard deck; stones scratched his cheeks and sand sifted through his entire suit. He attempted to move but could only wave his arms and legs feebly, his torso crushed by the sand.

Foolishly he peered through dirt-caked eyes; a thorny branch of some desert plant, ripped up by the wind, slapped his eyes and they clouded with blood.

And the storm was gone.

The wind was a whisper in his ears as he slowly shook the sand from his hair. Then there was no sound at all. In the silence he tried to stand but was held down by the mound of sand.

Squirming beneath it he was soon on his back. His legs were still buried but he easily pulled himself clear of the dune that had built itself over him. He sat up, brushing the sand from his face. There were fistfuls of it in the collar of his suit and it drained down his back as he leaned forward, standing slowly.

He felt pounds of earth dropping through his suit to his legs where it gathered in billows at his zippered ankles. He reached down and the sand flowed out of the opened flaps. He shook his legs until the greater portion of it was gone. He turned about, eyes searching.

The wreckage had been almost completely buried. Shards of metal gleamed in the afternoon light and an occasional flap of material fluttered silently through the sand,



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but he found himself standing nowhere near his ship. The cloud was almost out of his sight now, sinking below the horizon, creating new land as it moved.

He couldn't see the tank.

He reached into his suit and pulled out the Translator. Brushing the sand from it, he hit the small switch.

"Phillips . . . can you . . . hear me?" The Controller's voice was in the Translator almost immediately.

"Yes. I'm all right," answered the man, looking about.

"I . . . don't think . . . I am." The voice was choked, gasping. Phillips studied the area around him. Small bits of metal and cloth, a new dune. "Nat," he said, "I'm not sure if I'll be able to find the ship. Everything's buried."

"I . . . had . . . considered that contingency." Phillips began to probe the sand surrounding the many pieces of his craft. He slung the Translator on his belt as the Controller said, "I made certain I had some small control over the aft retro-fire assembly . . ."

As he discarded a small lump of aluminum the man said, "You might be able to kick up a little dust . . ."

"Perhaps." He paused at an overturned and useless generator unit, sitting on his haunches thoughtfully. There was no wind at all now and the white sun burned rays of gold across his face. He heard a whine beneath him. The retro-fire assembly. Standing, he cried, "It's working!" The Translator was silent. A puff of sand belched upward from the middle of the litter and Phillips ran to it, a grin on his face. The electric whine was dying . . .

"That's it . . ." gasped the Controller. "I'm afraid the unit's shot . . ."

"That's good enough," answered Phillips. "That's good enough." He pulled at the sand with both hands and was soon smoothing it down from the rounded hull. Minutes later he felt the tank and increased his efforts, perspiration clearing his face of sand and blood. His chest was pounding and vision blurred. Finally the tank was completely uncovered and he looked down at the Controller.

The seals had not held.

Nat was resting on two feet of sand, the brown water just covering his sides. He rolled about, wetting his back. Phillips looked at the dull patches on the silver-gray dorsal fin. His companion was dehydrating. He sighed and leaned against the tank, tired eyes closing.

"Explorer," the dolphin was saying, "I'm all right . . . it's just that I've got some sand in my eye . . . and I can't seem to get this damn water clear . . ."

The man twisted off the damaged seals and looked at the shredded gaskets as he opened the tank. "We'll lose the water a lot faster now," he said, putting his



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finger gently in the corner of the Controller's eye.

"No. Back . . . yes . . . that's it . . . Thank you." Nat smiled up at him and he smiled back, forgetting that Controllers always smile. He dropped the top of the tank back down and burrowed toward the damaged locker where he had stowed the provisions. Tugging open the bent door he peered inside and cursed softly.

The anger reached the Controller before the curse and he watched the man silently remove the still wet sand that filled the broken water flasks. He carried them out of the ship and hurled them, one-by-one, into four directions. He returned, puffing with dimming anger and said, "That's better."

"Although I appreciate your frustration," said the Controller, "you should attempt to conserve your energies."

"What for?" asked Phillips helplessly. "We need water. We won't survive another day here and I can't carry you around on my back looking for it."

"That would be impractical," answered the dolphin, motionless in the tank, eyes closed in thought or sleep. Phillips wasn't certain. He looked away.

"Well, I guess that's it," Phillips said finally.

The Controller didn't answer and the man sighed, feeling a growing sense of calm resignation in his mind that was not his own. He turned and said, "Nat, what have you done?"

"Done?"

Phillips stood, saying, "Don't play games with me. You can't conceal *that.* Nat, it's against regulations!"

"Explorer," said the Controller slowly, "it doesn't matter . . ."

The man looked down into the tank, the dolphin's back wrinkled and brown. "It does! I cannot allow you to die!"

"You have no choice."

Phillips shook his head. "Have you always known?"

"When I saw this was the only planet I knew."

"It's wrong."

"Is it?" asked the Controller. "To insure the safety of those entrusted to you—to be certain *someone* survives?"

The man leaned against the case. "Would you have made it in the ship after the accident, had we remained in space?"

"Sealed off as I was, yes," answered Nat flatly. "But you would have been dead long before we reached Base."

"Without water I'll die now regardless," said Phillips.

"A ship will be here by morning. Although you'll be grossly dehydrated, you'll be alive."

"And you?"

The Controller ignored him.

With sadness growing in his heart Phillips said, "You had no right."



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"As a Controller I had every right. As your friend, I had an obligation."

"What about my obligation to you?" asked the Explorer. "You tell me I would've died in space. Now you'll die here. How—"

"—Did I make my decision?" Phillips nodded mutely. He heard the Controller sigh. "When I was growing up, in the oceans back home, there were many tales told among us. Of humans we knew a great deal. And one of the stories I've always remembered was that of our ancestors helping shipwrecked sailors to shore, defending them from harm, protecting them. And I realized when I evaluated heuristics after the accident that those tales weren't legends or sleep-time stories. They were truth, and I understood."

"Regulations state," began Phillips through clenched teeth, "that in the event of a life-or-death situation during a C/E Team mission, the life and protection of the Controller shall be maintained *over and above* the life of the Explorer. Very explicit."

"That regulation was established by *your* superiors—humans. They realize our importance in space exploration but do not understand our personal dignity. They never have."

"Dignity?"

"Phillips," said the Controller, "it is simply beyond my imagination to allow you to die."

"And it's beyond mine that you can do this."

The dolphin was silent for several moments and he then asked, "Had you the choice, would you have insured my survival above yours?"

"Of course."

"Why then, do you deny me the same right?"

Phillips moved away from the tank and reclined on the command-sofa. The fatigue and his companion's words pressed on his shoulders with a tremendous weight. He looked across the desert and saw the sun riding on the mountains, long shadows crossing the dunes. Darkness was approaching slowly and he watched it marching toward him, quietly saying, "You should've told me."

"You would not have allowed it."

Phillips glared at the tank. "You're damn right!"

The Controller chuckled, raggedly and said, "I remember something I was told long ago . . ."

"What's that?"

"When I was finally selected for the C/E program, my family told me that although humans recognized us as intelligent beings they would always treat us as pets and we should tolerate that as best we could."

Phillips smiled slightly and said, "I hope I haven't been too much of a burden . . ."

"Not at all, I—" Nat began to cough violently and the man moved



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from the command-sofa to the side of the tank. He pushed away the top and put his hand onto the Controller's great head, feeling the racing pulse beneath the dulling flesh. He moved his hand in gentle strokes, his throat tightening with each gasp from his companion. Soon the dolphin found his voice again and said, "You've been everything to me, Phillips."

"You've always been my friend, Nat," answered the man, finding his words clouded by black thoughts of death.

"Oh, don't entertain notions," said the Controller, a dismissing tone in his voice. "One of us alive is far better than both of us dead."

Phillips brow rose. "We're a team. What am I supposed to do?"

"There's dozens of Controllers waiting for a chance to work with an experienced Explorer like yourself."

"I'm *your* Explorer," responded the man, moving his hand onto the dolphin's back, feeling shuddering breaths shallow beneath his hand.

"Yes," sighed Nat. "And I'm your Controller."

"We're a team."

"A team," repeated the Controller. "I'm sorry, Phillips." The streamlined form was trembling beneath the Explorer's hand and soon it was still and he felt a sickening wave of black sweep deeper into his mind.

"Nat," he said softly, bending down and staring in the twilight at the Controller. The laughing dolphin-face stared back at him.

THE night was starless above him as he scraped a hollow in the sand with a flattened hull plate, ignoring the heat and the convulsions of his own thirsting body. Once he managed to swallow a Nutrient-A capsule with difficulty, working on without rest. As he was smoothing the last handful of sand over his companion he heard a distant whisper in the growing light of dawn and looked toward the horizon.

Suddenly it was over him. A wide-bellied rescue ship, screaming turbine engines churning the sand, its red beacon flashing in the pale light. It pulled back slowly, massive with metal and sound above his head. He saw figures moving inside the bubble canopies, a Controller peering through its saline solution, a human commander on the flight deck. Phillips stared up through the clouds of sand and asked, "What am I supposed to do?" He didn't even hear himself in the roar.

Parting day
Dies like the dolphin,
whom each pang
imbues
With a new colour
as it gasps away,
The last still loveliest,
till—'tis gone,
and all is gray. —Byron ✦



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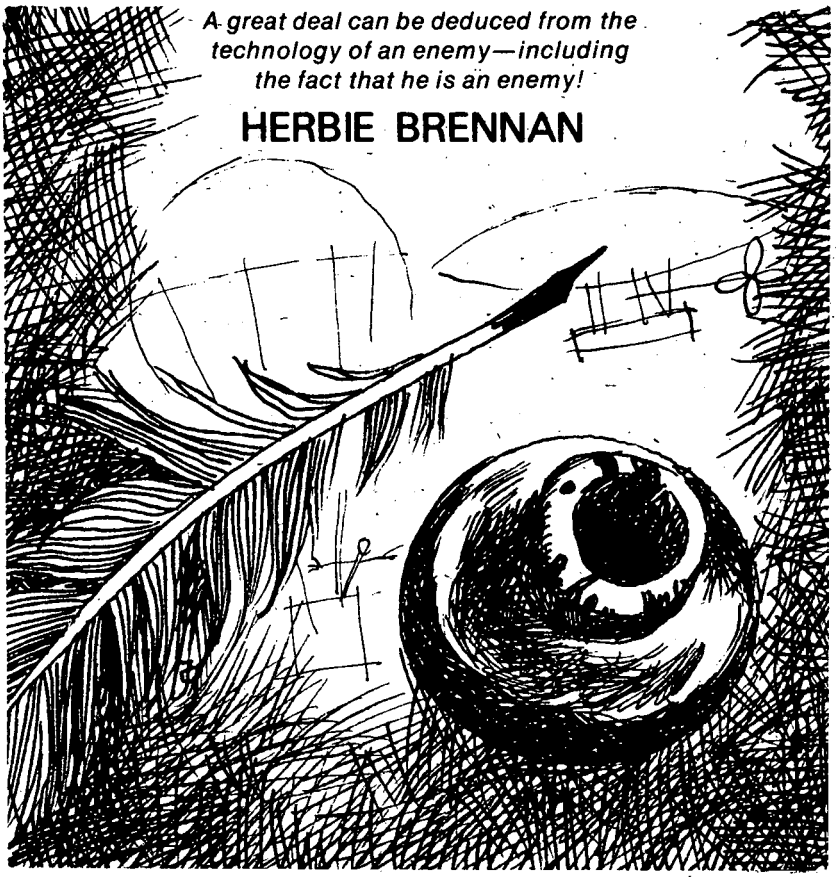
# THE AERIAL MACHINE

*A great deal can be deduced from the technology of an enemy—including the fact that he is an enemy!*

HERBIE BRENNAN



CLARKSON was irritable, partly because of the pain in his foot. As a result he ceased to think correctly, and his experiment kept going wrong. He added the catalyst four times altogether (checking and rechecking his sequence each time) but still the reactions failed to materialize. Eventually he abandoned the experiment—and the laboratory—altogether, half blaming his equipment as even educated men sometimes do, and half determining to try again when he felt fresher, fitter. It was bound to be a mistake in procedure.



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He walked up the back stairs, nursing his irritability. Distantly, someone was singing softly: Dora probably, who had a habit of singing when she imagined her betters weren't about. He might, perhaps, speak to her about it. None of the other servants seemed to be in evidence; and in his irritability he imagined that they would not be about if he happened to require them.

Servants were growing more impossible with every passing year; even the women were remarking on it.

He moved up the stairs quite slowly, with an uneven gait; since he could not place his full weight on his foot. Emily would have said the motion (and his frown) made him look considerably older than he was.

He failed to find her in the Sewing Room, somewhat to his chagrin. Although his self-awareness was as limited as that of most men of his era he nursed the fleeting realization that she was the only human being in Creation likely to lift him from his mood. But if she was not to be found, she was not to be found. Sighing faintly, he limped to the Withdrawing Room and, finding a reasonable fire there, sat down before it in the only decent armchair the house provided.

After a time, he rang for Danvers. He appeared eventually.

"Sir?"

"Oh, there you are—what kept you?" Without waiting for an answer, he asked, "Is Mrs. Clarkson in the house?"

"I believe so, Sir," Danvers said. He was youngish for a butler, but quite damnably efficient. "Shall I look for her, Sir?"

Clarkson waved his hand negatively. "Let her be; she'll find her way here eventually. You might see if you can find me some port."

"Certainly, Sir."

He regretted the order the moment Danvers left. After all, the port was largely responsible for the pain in his foot, according to Dr. Flanagan. At the same time, life would hardly be worth living without some relief from the sober call of duty. Besides, whatever the long-term detriment, if you drank enough port it deadened the worst of the pains for an hour or two.

Danvers brought in a full decanter with the glass. As he set it on the table, he said gravely, "A gentleman called a little earlier, while you were in the laboratory. I informed him you had left instructions not to be disturbed."

"Good," Clarkson grunted. He stared into the fire, waiting for Danvers to pour the port.

"He intimated that he might return later, Sir, when you had concluded your work."

Clarkson sighed heavily. "What an infernal nuisance. Who was he?"

"He left his card." Danvers pro-



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duced it like a prestidigitator and laid it beside the glass.

It was small, expensively engraved, although without the ornate elaborations which seemed to be affected by many so-called gentlemen nowadays. The name read, 'Count Vincent de Berg'.

"Did he say what he wanted?" Clarkson asked, his tone considerably softened by the title. Although, as he realized quickly, the man might be a Papal Count. The name sounded foreign, possibly French.

"Only that he wished to see you on a matter of importance, Sir." Danvers hesitated marginally. "I hope I did right in not disturbing you."

"Perfectly right, Danvers. Perfectly right." Clarkson reached for his port. If it was really a matter of importance, the man would be back. He sipped his port and felt the rich, sweet wine ease some of his earlier frustrations. "Foreign, was he?"

Danvers nodded. "So I would judge, Sir."

"French?"

"Possibly farther afield than that."

Clarkson let it go. There was always the possibility the man might be one of those itinerant noblemen from Eastern Europe; it was quite impossible to tell anything from a name nowadays—or even a title, come to that. In any case, it was useless speculating. The mystery would be cleared up when he called again. If he called again . . .

Emily came in as Danvers withdrew. She looked, as usual pale and happy. "There you are, darling. Finished in your smelly old laboratory?" She came across and kissed him, not altogether respectfully, on the forehead. Then she caught sight of the decanter and frowned. "I thought you were feeling gouty, my dear. You know what the doctor said about drinking port."

"Confound the doctor!" Clarkson muttered. He reached defiantly for his glass.

"Really, Charles, I do wish you wouldn't use such expressions." But there was a twinkle in her eyes.

"And I wish you would not use such expressions as 'smelly old laboratory', my dear." He looked up at her and smiled.

Emily sat down opposite him, primly upright—a posture she frequently adopted when she was about to say something outrageous, or simply to engage in banter. "But it is smelly," she pointed out. "And the wing in which you have housed it is certainly old, even if the equipment you use is not." Her eyebrows elevated. "So what else should I call it?"

"I have no idea, my dear," said Clarkson fondly. "But I do feel whatever you decide upon should be a little more respectful."

"You're very stuffy," Emily said. But the subject obviously bored her, for she went on almost im-



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mediately, "Who was the curious man who called earlier?"

Clarkson raised an eyebrow. "I was not aware that we had been invaded by—" He coughed. "—curious men."

"Not men, darling—man. Hardly an invasion, but—" She lowered her eyes becomingly. "—a striking individual. I could scarcely contain myself for wondering what business he might have here."

"I fear you will have to contain yourself a little longer," Clarkson said. "For I presume the individual you saw was Count Vincent de Berg and I have not the slightest idea what business he had here. I have only just now learned about his call from Danvers."

Emily looked a little surprised. "You did not see him?"

Clarkson smiled. "I was working in my smelly old laboratory," he said.

Cook had one of her tantrums, so dinner was a little late that evening, Clarkson found the delay embarrassing since he was entertaining Sir Laurence and Lady Pitney and they had, with Presbyterian punctiliousness, arrived exactly on time. But the meal, when it did arrive, was up to an acceptable (one might, in all modesty, have even said exceptional) standard and by the time the ladies withdrew, Clarkson had mellowed again.

His humour was further heightened by Sir Laurence, who took the opportunity while Danvers served the port and laid out a selection of Clarkson's best cigars, to bring the conversation around to science.

"Didn't want to bring it up before, old boy," he rumbled. "Know how these things bore the ladies. But frankly, I've been keen to have your opinion on something. As a man of science, you appreciate." He had a basso profundo voice that sat well in his portly frame, although there was a hint of roughness in it which might have come from the prodigious quantities of spirits he habitually imbibed.

Clarkson finished lighting his cigar, then waved depreciatingly. "Hardly a man of science, Sir Laurence. A mere dabbler, if you must . . ."

"A dabbler with a reputation," Pitney said. "Don't think I'm unaware of it. Matter of fact, I overheard old Bannerman chatting about you in the House the other day. Said you were doing some of the most interesting investigations in chemistry this country has ever seen."

Although the report was probably exaggerated, Clarkson felt both surprised and pleased. Lord Bannerman was nobody's fool, despite his age. But he felt obliged to shrug. "Lord Bannerman is kind, Sir Laurence, but I fear I am no more than an amateur in these matters. I consider myself fortunate to have sufficient private income to allow me to amuse myself at these things."



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"The Empire was founded on amateur virtues," Pitney told him. "Amateurism is what makes England great—don't lose sight of that, my boy." He leaned forward in his chair. "What I want to know—in confidence, of course—is your opinion of this fellow Darwin."

Clarkson hesitated. It was not, admittedly, an unexpected question. Evolution had become a fashionable controversy lately. He had his own ideas about the Theory, but it was not, perhaps, politic to voice them in all and every circumstances. Pitney, in his own gruff way, was reputed to be a religious man. At the same time, like Bannerman, he was not a fool, so it would never do to waffle.

"I have considerable respect for Mr. Darwin's research," Clarkson said carefully. "And in particular his observations in the field." Pitney nodded, so it seemed he was on a reasonable safe tack. He sipped his port. "One must, I think, admire his courage; first, in exposing himself to the rigors of his famous voyage; and secondly, for propounding his Theory in public when he returned."

"Agreed," said Pitney, "but the Theory itself—what do you think of that, Sir?"

Something in his tone gave Clarkson the clue he had been seeking. He smiled. "Even a courageous man may be lacking in wisdom."

"Ah," said Pitney. "Ah." He leaned back and sucked on his cigar with an expression of satisfaction. "So you think he's a fool, do you?"

It would have been easy to agree, but Clarkson, who had in fact some sympathy for the Evolutionists, had also an ingrained habit of defending his self-esteem. "Certainly, not a fool, Sir Laurence. Let us merely say that—as a man of science if you will—I find his theory very much unproven."

"Thought so," Pitney nodded. "You're being very careful and I appreciate it. But it's easy to see what you really feel." He chuckled suddenly. "Dammit, I can trace my ancestors back to Bosworth Field and there's not a monkey in the lot of them? Although, by George, a few of them behaved worse than monkeys, what?"

Clarkson smiled back, but cut short his reply as Danvers entered. The butler came in behind his chair and murmured, "The gentleman who called earlier—Count de Berg—has returned, Sir."

For the second time that evening, Clarkson hesitated. The man kept calling at the most infernally unsuitable times. All the same, he was curious to find out what he wanted. Courtesy dictated that he should not interrupt his conversation with Sir Laurence. But if he sent the mysterious Count away again, the man might conclude he would never be welcome. He temporised. "Beg to inform the Count that I am



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engaged at the moment, but if he cares to wait I may be free to arrange a suitable appointment a little later. If he agrees, show him into the library."

"Look here, old boy," Pitney said as Danvers withdrew, "if some business has come up, don't let me keep you from it. Damn fine meal and damn fine conversation, but Isobel and I are early to bed at the best of times."

"Please don't distress yourself, Sir Laurence," Clarkson told him smoothly. "I wouldn't dream of having you cut short your visit—I'm enjoying our talk too much. The fact is I have a Continental nobleman who keeps calling to see me on some mysterious errand. I have not had the opportunity to speak with him as yet, so I have no notion of the importance of his mission. I merely suggested to Danvers that he might wait a while in the library and perhaps if you would excuse me for no more than five minutes, I could arrange a mutually convenient time for us to discuss whatever he wished to discuss."

Pitney nodded. "Why not do it now, old boy. I'll join the ladies and give them your excuses. Expect I can put up with their chatter until you get back."

"If you really wouldn't mind . . ." Clarkson murmured.

"Course not, old boy. Can't have you sitting all night wondering what the fella's after." He stood up, his bulky frame dominating the dining room. "Damn glad to learn you're not one of these bright young men chasing after Darwin just because that brand of science has become fashionable." He lowered his voice confidentially. "Don't take offense at this, old boy, but I'm an admirer of your work—damn, science is the coming thing and any man who doesn't see that is a fool. Fact is—and, as I say, I wouldn't want you to take offense—if you ever feel that you need a little extra money for some project in hand—" He caught sight of Clarkson's expression and waved him to silence with a meaty hand. "I appreciate you're a man of substance, Clarkson; but even a man of substance can sometimes feel the need of friends. So if there's ever a necessity in the way of equipment or anything of that sort, I just want you to know that I'm sympathetic. Say no more." He stopped, his expression vaguely embarrassed.

"That's damned white of you, Sir Laurence," Clarkson said easily. "Let me assure you no offense has been taken. I see no prospect of requiring any but the most modest financing in the foreseeable future—and as you say, this is certainly within my means—but should the situation ever arise . . ." He left the sentence hanging in the air, and Pitney appeared more than satisfied.

Clarkson walked down to the library experiencing an unfamiliar



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mixture of emotions. He was thinking not of his mysterious visitor, but of Pitney's offer. It was interesting not in itself, but for what it implied. Perhaps the Clarkson name was becoming known in the right circles after all. How ironic, though, that this modest fame should stem from something which had started as a hobby and little else. Despite the irony, he felt a warming glow of pride. Was it really such a bad thing to become known—however modestly—for the part one played in the March of Science. There was, he had to admit, a certain nobility. . .

His visitor arose as he opened the library door.

## II

"YOU SEEM very pensive, my dear," Emily said softly. They were sitting alone in the living room, the huge log fire which Danvers had stoked earlier now low, but still glowing cheerfully. Emily had been engaged in crochet, or embroidery, or some such feminine frivolity. Clarkson had been engaged in thought.

He looked up. "That, perhaps, is because I *am* pensive," he said, not unkindly. In fact, although he would have died rather than admit it to her, he felt faintly shaken.

Emily glanced at him shrewdly. "You seemed in excellent humor until you talked with the mysterious Count de Berg . . ."

"Did I?" Clarkson replied calmly enough; but her insight had surprised him. It had been like that throughout their marriage. He would decide, on the basis of considerable evidence, that she had not a serious thought in her pretty little head, then some flash of insight—indeed sometimes wisdom—would bring his carefully-constructed conclusions crashing down.

Her expression was studiously bland. "It also seems to me that you spent rather more time with our unexpected visitor than might have been courteous to our *invited* guests . . ."

He glanced at her sharply. "Do you imply criticism of my actions?"

Emily smiled coolly. "It is scarcely the place of a wife to criticise her husband. And yet . . ." She toyed with a thread from her embroidery, winding it coquettishly about her finger.

"And yet?" Clarkson echoed.

She looked directly into his eyes and suddenly all her teasing air had vanished. "Charles, darling, you must not pretend to me. I am, after all, your wife and as such I have certain rights. No, please—" He had been about to interject, but stopped. She set her embroidery down, an unconscious gesture which emphasized her seriousness. "When you rejoined the Pitneys and myself after your talk with our visitor, you were disturbed. No, Sir, do not trouble to deny it: I have known you too long and too inti-



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mately to mistake your mood. Our guests were deceived, but I was not."

The direct approach calmed him. It was as if Emily's sudden change of role made him feel less alone. "How was I then, behind the deception?"

Emily smiled. "You were excited, dearest husband. You were disturbed; perhaps a little frightened. But most of all, you were excited. I have never seen you engage in a sterner battle to prevent your emotions becoming evident."

For a long moment, Clarkson said nothing. Then, on a rare impulse, he rose, walked across and embraced her. "My dear, dear Emily! How fortunate I am to have married such a jewel! You are correct, of course, and I was foolish to try to hide it from you. I *was* excited—more excited, perhaps, than I can ever remember being since a child. The Count de Berg is a most remarkable man." He began to pace the room, his expression thoughtful. "A most remarkable . . ."

"Then," Emily said mock sternly, "you must tell me all about him." The coquette appeared behind her eyes again. "And about the business he came to discuss."

"Very well," Clarkson said firmly. He looked at her seriously. "I do not need to tell you everything I say must be treated in confidence—absolute confidence."

"Cross my heart," said Emily; and though the gesture was childish, he knew she meant it.

"First, the Count. As you saw, he is a most impressive-seeming man."

"I saw him only at a distance," Emily interjected. "Since you have decided to trust me with your secret, you must tell me all. How he looked, how he dressed, from what remote spot he originated. And—"

Clarkson held up a hand. "Enough, dear wife, you shall know all. He is a man shorter in stature than I am, but with enormous presence. I could not guess his age, for he is one of those individuals with truly timeless features. He dressed soberly, with taste, in black. And as for his origin, although I did not venture to question him on that point, I feel it may be remote indeed."

"France?" asked Emily. "Or beyond?"

"I would say Russia," Clarkson told her. "His English is impeccable and I was quite unable to detect a hint of accent; but it was that careful English one hears when the speaker does not hold it as his mother tongue. No, he is not a native of these islands. It was the cast of his features which gave me the clue: were it not for his bearing and obvious breeding, I would have thought him an Asiatic—possibly even a half-caste Chinee. But since, as I say, he is obviously nothing of the sort, we must, I think, assume he is a Russian, for part of that



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country borders Asia and so many of its inhabitants—even in the highest circles—display certain Asiatic characteristics."

"So he is Russian," Emily said, accepting the logic without further question.

Clarkson ceased to pace and sat down again, but the excitement was still obvious in his face. "I believe so. It is unimportant. What is important—" He hesitated, as if even at this stage he doubted the wisdom of telling her everything. But the conflict was resolved almost instantly. "What is important is that our mysterious visitor is an inventor—the designer of an aerial machine!"

There was silence in the room, broken only by the measured ticking of the grandfather clock. A log shifted in the fireplace, hissed and sparked.

Emily frowned. "A balloon? Count de Berg is a balloonist?"

"No!" exclaimed Clarkson excitedly. "Not a balloonist! That is exactly the point! When he first told me his business, I made the mistake you have made. His invention is as far beyond the balloon as the balloon is beyond a toy kite. He has designed an aerial machine—an airship!"

Emily stared at him in silence. By her expression, she was having difficulty assimilating the information. Eventually she said hesitantly, "A ship that flies through the air?"

Clarkson nodded vigorously.

"But . . . but, dear Charles, such a thing is impossible."

Clarkson smiled, a little smugly. "I am afraid, my dear, that in your imagination you are picturing an ocean liner sailing through the heavens. That indeed is impossible. A flying machine heavier than air is a logical absurdity. We know from our experience with balloons that any flying device must, in some manner, be buoyed up." He stood suddenly and reached for the bell pull. "I shall do better than tell you: I shall show you."

They waited impatiently until Danvers appeared. Clarkson sent him off for drawing materials and presently he returned with several sheets of paper, an inkwell and a quill. Clarkson would have preferred charcoal, but he let it go for the sake of expediency. Now that he had begun to tell Emily about the airship, his imagination had taken fire and burned away all hope of patience.

He laid a sheet of paper on the table and began to sketch. "Now here we have a typical balloon. Here the balloon itself and here the gondola. The balloon is, of course, spherical—or approximately spherical. Hardly a modern invention and hardly a particularly useful one; except, of course, for sportsmen and adventurers. But for all that, the first device with which Man has attempted to conquer the air. You know the scientific principle of the balloon, of course?"



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Emily nodded, but in his excitement he appeared not to notice. "Although the basket, and indeed the canopy of the balloon are in themselves heavier than the air, once the balloon is inflated, we introduce buoyancy. The sum-total buoyancy of the inflated balloon is greater than the weight of the balloon material and the gondola. Thus the balloon rises, buoyed up by the air around it.

Hot air, as we all know, is lighter than cold air and thus rises. The first balloons were filled with hot air. A fire was built in the gondola for that purpose."

"Was not that dangerous?" Emily asked.

Clarkson nodded at her and smiled. "Extremely dangerous, my dear. Good men have lost their lives because the fire got out of control. However, in more modern times, the primitive hot-air concept has been replaced by balloons filled with some lighter-than-air gas, such as hydrogen. The effect is identical, but since there is no naked flame, the device is considerably safer."

In a moment of whimsy, he drew a matchstick man in the gondola and added hanging weights to the side. "Although they have little commercial importance, modern balloons are quite sophisticated. We can control their ascent by lightening the gondola: all that is necessary is to throw out some weights—usually bags of sand. And we can descend again by the use of a valve which spills sufficient of the gas to allow a landing."

He set the quill down and sat back in his chair. "But for all its sophistication, the balloon has very considerable drawbacks as a mode of transport. In it, we can travel no faster than the prevailing winds permit. More important, although we can ascend and descend, we cannot steer. In short, as a practical form of transport, the balloon is useless."

"But," Emily put in gently, "you tell me Count de Berg is not a balloonist."

Clarkson's excitement flared again. "No indeed." He returned to his table and his quill. "I have not had time to study the plans of this man's remarkable invention in any detail, you appreciate, so there may be particular flaws which have escaped me. But the general principle . . ." He sketched a fat cigar beside his earlier drawing and added a curiously-shaped gondola underneath. "He envisages a balloon of rigid structure. The framework might be of light, strong wood, or possibly some alloy combining strength and lightness. The structure allows us to vary the shape from the spherical. I do not expect you to follow this, my dear, but for a guided airship shape is important, since we must in some manner eliminate wind resistance. Our airship must, so to speak, cut through the currents of the upper



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atmosphere as our more familiar ships cut through the currents of the oceans. For various reasons, the Count feels this cigar shape is the most suitable."

The quill made amendments to the gondola, added an exaggerated propeller to one end. "There is almost no limit to the size we can construct such a balloon. With greater size, we have greater lift. Thus the gondola may be massive and may house—" He looked across at Emily and smiled "—machinery. This is the essence of the Count's invention. He proposes to fit machinery in the gondola. This machinery will propel a shaft and the shaft will, in turn, propel an air-screw. This screw will drive our great airship through the atmosphere exactly as the screw of a ship drives it across the sea."

Emily frowned. "But what will he use to drive his machinery?" she asked.

Clarkson looked at her in surprise. "Why, my dear, there is only one source of energy powerful enough to motivate a device of this magnitude. I should have thought you might have guessed, even without my scientific training. The airship will be powered by steam."

## III

THE LITTLE doctor bustled in before Danvers had time to announce his arrival. Clarkson guiltily set his glass of port behind a vase, but not, apparently, quickly enough.

"At it again, Charles? Some men never learn." He shook his head and set his black bag down beside a chair. "Well, since you're intent on killing yourself, I suppose the least I can do is keep you company."

Clarkson smiled and gestured to Danvers. "Another glass for Dr. Flanagan. And I suppose you'd better bring a fresh bottle—this one is almost empty."

"Well," said Dr. Flanagan as Danvers left, "I suppose I should ask you how you are. Although in my professional opinion, you are looking healthier than a horse. How is the foot?"

Clarkson shrugged. Curiously enough, his foot had been giving him a lot less trouble lately than in the past. "A few twinges now and then. Nothing to speak of. Frankly, I doubt your diagnosis."

"Frankly, so have I. Always thought you were a bit young for gout, although since you insist on living like a reprobate, anything is possible. How's the work?"

For a moment, Clarkson stared at him blankly. Then he said, "Oh, my experiments? To be perfectly honest, I have not been in the laboratory for almost two weeks."

Dr. Flanagan sat down. The leather armchair dwarfed him but his expression suggested he was perfectly at home. "Delighted to hear it, dear boy. Overwork never did anybody any good; and believe



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me, you've been overworking for years. Never could understand it in a man who does not have to earn a living. Now if I was a rich young man like yourself, instead of an old pauper—"

"You would do exactly as I do," Clarkson put in. "Unless I am grossly mistaken about your character, you are as devoted to the advancement of science as I am."

If Flanagan intended to reply, he was cut short by Danvers' appearance with the port. When the butler left, they raised their glasses.

"To your very good health, Doctor," Clarkson said.

"And to yours, Mr. Clarkson," said the doctor. "Even though such an eventuality must cut down the outrageous fees I am pleased to charge you."

They drank. As Flanagan set down his glass, he said, "I fear I can't enjoy your company for long, Charles. I have had a spate of calls this morning—I only dropped in for a moment since I was passing."

"I trust we are not witnessing the beginnings of a local epidemic?" Clarkson remarked. It was lightly put, but there was a hint of seriousness behind it just the same. Epidemics did occur. Come winter especially, they waited on the wings of human experience like spectres of death. Occasionally they moved center stage and the combined advances of modern medicine were powerless against them.

"Not unless imagination and stupidity are infectious," shrugged the little doctor, "which my professors always assured me could not be the case."

Clarkson smiled. "That strikes me as an interesting remark, Doctor. Would you care to explain it?"

Flanagan sighed. He looked longingly at his glass of port as if regretting the fate which prevented the devotion of his life to such pleasures. "My dear sir, every doctor numbers amongst his patients those—most often ladies of advancing years and astronomical income—who require no more potent medicaments than attention. I fear my practice is no exception; although naturally wild horses would not drag their names from me."

There was no need for equine pressures, for the names of Dr. Flanagan's more difficult patients were known to every tradesman in the district—and for essentially the same reasons. "And one of these good ladies demands your attention this morning?" Clarkson asked.

"Not one, Sir—several. They have decided, individually and collectively, that they are suffering from shock." He sipped his port and favored Clarkson with a knowing look. "Because of a strange experience they underwent together last evening."

"Fascinating," Clarkson said. "Tell me more—or will that interfere with your Hippocratic Oath?"



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"Damn the bit!" Flanagan exclaimed. "It seems several of this town's good ladies meet occasionally for an evening of social intercourse. Chatter about how badly their sons treat them and gossip about the evil doings of the younger generation. There was one such gathering yesterday evening. Afterwards, as they were repairing to their separate homes, a number of these ladies saw—or thought they saw—a ship. We are inland, you appreciate, Charles, so this vision is strange enough as it stands. But not satisfied with such strangeness, our fine ladies claim *this* ship was flying through the air!" He frowned. "Oddly enough, I have heard one or two reports of a mysterious flying object from rather more reliable sources." The frown cleared. "While the vision apparently did them little damage last night, they have decided this morning that they are shocked, and consequently—why, Clarkson, what's the matter?"

Clarkson set his glass down, aware that he must have gone quite pale. His mind was racing. It was apparent that matters were moving forward far faster than he had anticipated. The problem now was what to tell the doctor. Clarkson's shocked reaction to the news was too apparent to pass without some comment. Nor did he feel the little doctor could easily be fobbed off with some makeshift story: he had far too high an opinion of Flanagan's native shrewdness for that.

He came to a conclusion. "Tom, a moment ago, in jest, I mentioned the Hippocratic Oath. I should like to mention it again, seriously this time. I have something to tell you, but it must remain forever a privileged communication. Although it does not concern my health, I would ask you to hold it as confidential as any detail of my most serious illness. Do I have your word?"

"By Jove, you intrigue me!" Flanagan exlaimed. "For what it's worth, of course you have my word."

"Very well," said Clarkson; and launched into the story of his initial meeting with the Count de Berg.

"Since then," he went on, "I have seen the Count on two further occasions. The first of these was a brief meeting. But during the second, which took place only a few days ago, he did me the honor of showing me detailed specifications of his airship. The thing is an engineering miracle, Tom. He even plans to have the passenger quarters lighted by electricity to promote the most exquisite comfort during flights at night." A cloud passed over his face. "As he was leaving, he did mention the possibility that he might soon be testing a prototype. But I had no idea the test would come so soon."

For a long moment, the doctor regarded him shrewdly. "This Count: why did he bring his plans to you?"



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Clarkson glanced down modestly. "I believe my experiments in chemistry have left me with some little reputation as a man of science. The Count may perhaps have felt he would have a sympathetic and intelligent hearing."

Flanagan nodded. Clarkson went on, "There was, perhaps, a rather more delicate aspect of his approach. He intimated that he would need funds. Planning an airship is one thing. Actually building one is another. Such a project would strain even the resources of a wealthy man. So he offered me a partnership in his enterprise in return for an investment."

"An equal partnership?" the doctor asked bluntly.

The bluntness was embarrassing, but Clarkson was accustomed to bluntness from this source. "Originally yes. But as it happened, the sum of money needed was beyond my immediate capital resources. Now, by a very curious coincidence, Sir Laurence Pitney had generously offered to finance my own experiments just prior to my initial meeting with the Count. I did not need his money then, of course, but it occurred to me that he might well be interested in the airship venture. The Count agreed on one-third interest each."

"Have you paid out any money, if I may ask?"

Clarkson shook his head. "Hardly, Tom. While I am convinced of the man's integrity, one must make certain of these things before one invests."

"I wonder where he got the money for the prototype," Dr. Flanagan mused. "According to my patients, it seems to be well enough built to fly last night."

Clarkson blinked.

"Well, no matter," Flanagan went on. "Am I permitted to know the motive power of this vessel? The technical details, so to speak? Or does he fly it all on electricity?"

"No indeed," Clarkson said. "The motive power is steam. That is to say, an air-screw is driven by steam power. The balloon gives a lift of 1,000 pounds."

The doctor's eyebrows raised. "Are you sure of that figure?"

Clarkson nodded. "He mentioned it several times. Impressive, do you not think?"

Dr. Flanagan set down his glass decisively. "Not impressive enough, dear Clarkson. The Count's airship will not work."

## IV

It was a clear night, mild for the time of year. Clarkson was introverted, much of his confidence shattered by the events of the day. Flanagan, on the other hand, seemed to find release in talking. They walked across the common, en route to Clarkson's home. The last witness had been interviewed. With only minor differences, the accounts tallied.



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"Steam power," Dr. Flanagan was saying, "does not require only machinery. It requires fuel: coal. And coal is heavy. So are batteries, if you intend to light your quarters by electricity. Or, if you use a generator, you have further weight problems there too. Add the necessity of a captain and crew. Add your gondola, your furnishings. Even without a single passenger, you have a weight far in excess of a thousand pounds."

"I feel a fool, Doctor. I cannot imagine why I could not have made such a simple calculation."

Flanagan glanced across at him. "You could have made it easily had you thought of it. But you did not because, my dear Clarkson, you are a man of science and you were faced with a problem of engineering. The two are very different. There was also, if I may say so as a medical man, the question of the Count's personality. From your account he was—or is—a very impressive individual. Better men than you or I have failed to think clearly under the impact of an impressive personality."

The soft blue glow of the street lamps showed in the distance, diffused by a light ground mist.

Clarkson shook his head. "I cannot believe him more than a simple swindler."

"Nor I," agreed the doctor. "Even though he appears to have vanished now."

It was, Clarkson thought, a double mystery. They had called at the Count's lodgings—or supposed lodgings—only to find no man of his title, and no man answering to his description, had ever stayed there. Inquiries throughout the town had failed to elicit any hint of him.

"And yet," said Clarkson pensively, "if not a swindler . . . what?"

"He required you to keep the matter of the airship secret?" Dr. Flanagan asked.

Clarkson nodded.

"But he did not object to your telling Sir Laurence Pitney?"

Clarkson glanced at him in surprise. "No, of course not."

"And I may assume that, like any decent husband, you shared the secret with your wife?"

"Yes."

"And Pitney with his wife?"

Puzzled, Clarkson said, "I would assume so."

"And, with the deepest respect to the ladies involved, are not women notorious for their inability to keep even the most minor secrets?" Before Clarkson could reply, Flanagan went on, "Besides, if our friend the Count really required secrecy, why would he choose to test his marvelous invention over so heavily populated an area?"

"You are piling Pelion on Ossa where mystery is concerned," Clarkson remarked. "I fear I fail to follow your train of thought."

The little doctor stopped. "You



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are forgetting one thing: although we are now both agreed that the Count's marvelous airship could not possibly work, we have a dozen eye-witness accounts that it *did* work. It flew above this very town, electric lights blazing, no longer ago than last evening. What do you conclude from that, Clarkson?"

Clarkson shook his head. "I have no conclusion," he said helplessly.

"I have," the doctor told him shortly. "Whatever flew over here last night was not the Count de Berg's airship."

They walked on, slowly. For a time, Flanagan appeared sunk in reverie. Then he said suddenly, "Have you any military training, Charles?"

"No."

"Nor have I. But I once took an interest in tactics. A hobby, you might say, like your own chemical experiments. I learned the techniques by which one country may successfully invade another. You first send scouts to find out the lie of the land. If they are to survive, they have to pass for natives. That is to say, they must know the lingo and they must—at least superficially—have the appearance of natives. If these scouts carry any equipment, it must be cunningly disguised. If, by its nature, it is impossible to disguise, then the natives' attention must be diverted from it. And should this be unsuccessful, the natives must be convinced that the equipment is really something else—something that will not alarm them. We have done this ourselves in Africa, convincing tribesmen that small arms are white man's totem sticks and so forth." Once again he stopped. "Perhaps our mysterious Count was a scout. Perhaps his talk of an airship was not meant to enlighten, but to confuse. Perhaps he meant the . . . secret . . . to leak out, so that people would not guess the real nature of the craft which visited us last night."

As the implications sank in, Clarkson breathed, "You mean some foreign power plans an invasion of Britain?"

The doctor's face was impassive. "I know of no nation which possesses airships, Charles. I doubt if any European country could have constructed an aerial navy in absolute secrecy. But this concerns me less than a more serious question . . ."

"Which is?" asked Clarkson.

The doctor looked directly at him. "If Count de Berg was a scout, I wonder when we might expect the main invasion force?" Then Flanagan did a strange thing. He turned his face upward, so that he was staring out beyond the gas lamps to a sky filled with myriads of stars. "Although," he added thoughtfully, "the main force may not arrive for quite some time; perhaps not for centuries. God alone must know how far it has to travel." ✱



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# GALAXY BOOKSHELF

*Theodore Sturgeon*

ANYONE involved in sf seems to be regarded by the lay public—and indeed by some readers—as flying saucer experts or flying saucer nuts. I don't know which is the more irritating. My personal opinion on the whole subject, with which I respond to the inevitable questions on speaking tours, panels, and interviews is that yes, there are UFOs, and no, I have no opinions as to what they are, where they come from, or why, being perfectly content to wait for further evidence—"hardware or bodies," as the late Fletcher Pratt used to say. To hypothesize about them is legitimate; to construct hypothese into credos, to force them to carry a freight of personal prejudice, and to use them to attack established scientific search-and-sum-up techniques is only ludicrous. To attack some scientists and certain of the military for their "Let's debunk this, whatever the evidence" and/or their .007ish "Whatever it is, it's restricted information," is laudable. It seems to me a simple matter indeed to draw on every known observational technique, to make dispassionate summations, and to publish the results as they accrue. In the unlikely event that they are dangerous, we should know as soon as possible. In the event that they can give us something of value, then let's have it, as soon as possible. It seems to me that both the military and the



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scientific communities need their credibilities laundered almost as urgently as the poluticians (an accidental typo, that, but ain't it a beaut?) do. The latter have made themselves an easy target, but wouldn't it be nice to live in a world where their statements, and military and scientific reports could be accepted comfortably with no grains of salt? Military secrecy has a pervasive side effect, feeding directly into the ego glands. In small kids it's called "I know something you don't know." In the brass, especially the lesser brass, it acts like shoe lifts, making one appear taller even when one knows one is not. This (to keep the metaphors mixing) spills over into civilian government and the press. And scientists are by no means immune.

What brings all this up is an interesting cluster of non-fiction which has accumulated here over the past few weeks. *Beyond Earth,* subtitled *Man's Contact with UFOs* (Bantam, 248 pp., indexed and illustrated, $1.50) is by Ralph Blum with Judy Blum (what's the difference between that and Ralph Blum *and* Judy Blum?) and is the work of a hard-working professional journalist. The Blums retread a lot of the indignant insistence of other writers in the field against official secrecy and stupidity in the area of UFOs. Although his "tilt" is toward the concept that these phenomena are extraterrestrial and intelligently operated, he has the sense to conclude, in his final chapter, that (as Charles Fort once remarked) any answer is not necessarily the only answer, and that we still seek a full explanation, I find immensely refreshing. There are times when his "tilt" tips his objectivity, as in his too-ready acceptance (I think) of certain "authorities" just because they have college degrees, and his startling *ad hominem* attack on Carl Sagan; but by and large, his willingness to do homework, legwork and spadework has produced one of the most sensible tomes yet written on the phenomenon. The folio of photographs is truly mind-boggling and worth the price by itself.

INTERCEPT UFO by Renato Vesco (Zebra Books, 338 pp, illustrated, annotated but not indexed, $1.95) has an interesting publishing history. The first copyright is Italian, the English translation 1971. (I do not see a translator's name. Whoever he is, he's good.) Published in '71 by Grove Press, it was released as a paperback this past spring. The author, says the bookjacket, is the former head of the technical section of the Italian Air Force, and a senior member of the Italian Association of Aerotechniques. In my judgment his knowledge of air technology is truly encyclopedic, as is his familiarity with the wartime and postwar history of aviation; as a matter of fact, were I



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to be asked for a reference work in these areas, I'd unhesitatingly recommend this one, quite aside from its UFO content. It makes a formidable underpinning to his hypothesis that UFOs are real, and that they have, because logic and physics dictate that they must have, such and such a propulsion system, so and so lift factors. He avoids almost completely any conjectures as to where they come from, and makes no shrill conclusions as to why. His enmity toward "ufologists," "contactees," and the flying saucer crowd generally, is matched by his scorn for the military's public relations tactics. He is convinced that they have been aware all along that the UFO's are extraterrestrial, with occasional panic suspicions that they are Soviet, and that they have been engaged for all these years in frantic secret effort to duplicate them and get them into the arsenal. The presumption is that the Soviets are doing the same. The result is, of course, an increasing lack of faith in government, in science, and in the military, by an informed and would-be informed public. Let us pray—let us also make noise!—that a new breeze may blow through secret corners of these establishments, that the us-and-them syndrome be dried up and blown away, that we begin to think as a thinking species which welcomes and shares all knowledge. Anyway . . . if you have a shelf of UFO books, add these two.

A NIGHT-TIME radio addict, I first heard of R.C.W. Ettinger on the old Long John Nebel show on WOR in the 50's. John ran a 5½-hour talkfest every night and really wrung his guests out. He had Ettinger on several times and was himself heavily hooked on the man. And I suppose that's understandable. Ettinger's idea of freezing people at the moment of death, so that they can be revived decades or centuries later, has a certain appeal to the ego. As a matter of fact, one might say that the greater the ego, the greater the appeal. It takes a very special kind of arrogance to assume that one is worth preserving, reviving, renewing indefinitely. It isn't, I suspect, so much the spirit of adventure nor the prod of curiosity about ages-to-come that constitutes this appeal; it's the magic of Me, the conviction that "I" am worth preserving and rewarding. I am not the world's humblest person, but I am realistic enough, I think, to permit whatever virtues I possess to become genuinely posthumous, and to see the value of not being around to answer for my vices. As a resident of the far future with the power to resurrect any of countless rows of frozen stiffs, I think I would hesitate particularly to push the button marked Ettinger, for fear that the ego he so prizes, the ego that caused him to start his movement, the ego which drained so much of his real wealth into cold storage for so long, might



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be resurrected with him. *Man into Superman* (Avon, 288 pp, indexed, $1.50) is about the most opinionated packet of push you will ever hold in your hands. Superficially I have to agree with a great deal of what he says, and join him in what he attacks—the trend to stasis in so many millions of minds, the lack of the long view in favor of immediate gratification, the adherence to the outmoded, the forgiveness of so many irrationalities because, and only because, they have been around for so long. The carrot he holds out for us donkeys is his assertion that superman is inevitable, and that state or condition is within your personal reach. He goes on then to describe what it must be to be a superman, and how mutable, improvable, are all the aspects of You, body, mind, and spirit. For all that, I don't think I could place myself at the mercy of some future generation which would be prepared to thaw me out just because I am so damn wonderful. I think the likelihood is just as great that we will run out of the energy necessary to keep the icebox going, or that I will be revived for the protein in my liver and hams. Anyway, read the book. It might put the light of revelation in your eyes, and it might flush some dust out of your veins through fury. At the very least he will force you to answer for your own convictions, a good many of which I'll bet you haven't looked at for too long.


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Louis Pauwels and Jacques Bergier, who wrote *The Morning of the Magicians* and created quite a stir a while back, have given us *The Eternal Man* (Avon, 254 pp, illustrated, with bibliography, $1.50). The Michael Heron translation (from the French) is crisp and articulate. The book might be described as van Daniken with scholarship, taste and style. The authors display their product and wait for you to examine it; they do not put a knee in your chest and shriek. Like that charioteer with the screaming axles, they feel that we have a legacy from very ancient sources, and those sources may not be of Earth. *The Eternal Man,* however, insists on nothing and, except by gentle illumination, does not attack. One such illumination is that science, as we know science, comes late to technological advancement. Some of the most astonishing and potent technological leaps were made by people absolutely ignorant of science and to whom science would be meaningless or worthless. To unhitch one's mind from the axiom that the scientist is the discoverer, the engineer, the exploiter, is to elevate the doer, rather than the thinker, to a more deserving place. "The history of invention is boundless. The history of science is narrowly limited. Science is a river. Invention is an ocean. Science is mental conquest. Invention is the whole of nature at work in man. Science advances within the bounds of the possible. Invention is a blind victory over the impossible. In this sense, it is magic." So state the authors, and go on to point out that it is magic that works, that has worked for more millennia than we have, until recently, been willing to acknowledge. It is so easy to fluff off this or that ancient culture as barbarian, because they had no science; so easy to believe that because of this they were slant-browed trogs squatting in front of holes in the cliff, when in actuality they lived in complex societies full of technological wonders, in cultures already ancient. In our lifetime the origins of man have been pushed back from five to seven figures, and the thrust of this book is, not that the teachers from the stars are necessary to our history, but that there is less and less evidence that they did not come, more and more time in which they might have. Fascinating. And now I'm going off to build a version of a backyard seismograph (I live in California; I was jolted by a 3.75 just this morning) which this book describes. It was invented in China by one Chang Heng, who was born in 78 A.D. and died in 139. It is simple and breathtakingly ingenious. Of course, Chang had access to a lot more seismology than I. The Chinese study of earthquakes goes back to 780 B.C.! ★



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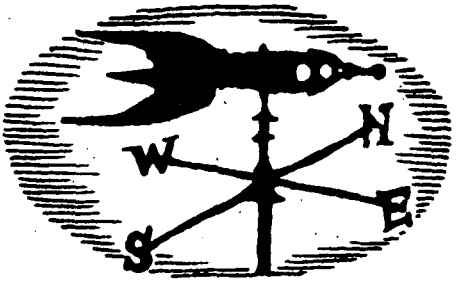


# DIRECTIONS

Mr. Baen:

I enjoyed Poul Anderson's article in the August issue very much, but I disagree with him on one point. I think that many science fiction readers *do* continue reading sf for much of their lives. I'm talking about people who read sf often. I realize that quite a few people read, say, *The Terminal Man*, then never touch another sf book. I don't think that type of person can be considered to be someone who abandoned sf, he was never a Trureader in the first place.

I think that Mr. Anderson had Trureaders in mind, though. Isaac Asimov has said that after writing science fiction, everything else is downhill. This is also true of reading sf; when one quits reading it, what does he go on to?–

It's true that science fiction often loses a long-time reader, Myrum J. Mudgett (*Galaxy* Directions, Aug.) is a good example. But he read sf for over forty years. Even now, he still wants to read it, but he doesn't like what is now being written. That's unfortunate, but not tragic. Mr. Mudgett is going to miss out on a lot by quitting now, but still, forty years is a long time.

No, Mr. Anderson, I think that most sf readers keep at it for a long time. As I said, though, I did enjoy the rest of Poul's article, it's one of the best I've seen on where science fiction has been, and where it's going.

You're doing a very fine job on *Galaxy* and *If*, Mr. Baen. I especially like Jerry Pournelle's column in *Galaxy*, and Dick Geis' in *If*. Please put better covers on *If*, though. They mar an otherwise excellent magazine.

Sincerely,
Mark G. Scheuern

Dear Jim Baen;

I am writing in reference to Alexei Panshin's letter (*Galaxy*: July, 1974). Panshin writes ". . . a new format with a better sense of the values of science fiction should sell strongly." I wholeheartedly agree with this idea, but not his proposed approach to the matter.

Alexei's first complaint is of size. Personally, I prefer a magazine to look like a magazine (i.e. *Vertex* size). 8½ by 10¾ size allows a magazine, like *Vertex*, to not look like "cheap digest magazines." Pulp-sized magazines are not only ugly but very inconvenient to hold, carry, and store as opposed to 8½ x 10¾ (or even digest size).

The idea of an 8½ by 10¾ magazine being *lost* by being put with other general-type magazines is illogical. I truly doubt if a reader of *Galaxy/If*, *Vertex*, or any other science-fiction magazine just reads sf. Chances are that sf readers look for other magazines of the 8½ by 10¾ size, too. If another person, who wouldn't normally look for a science fiction magazine, picked up



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and bought a sf magazine of this size *because* it was next to one of their favorite magazines and looked interesting, would this be so bad?

As to the content of a new science fiction magazine, what Alexei Panshin outlines is a mainstream magazine. Science fiction magazines should be more aware of their times and include articles, reviews, and stories which reflect them, but *only* those which relate in some way to science fiction or fantasy. This relation should include science (as *Vertex* has) and books, movies, and records concerning science, science fiction and fantasy. Articles on comedians and performers have no place in a science fiction magazine. If a magazine included all things that reflected our times (as Panshin suggests), it might be excellent but it would not have those unique ingredients that constitute a science fiction magazine.

A science fiction magazine is a place where people who enjoy the hobby of sf can come together to write, read, and comment on it. I would like to see a science fiction magazine which includes good writing of sf and its related fields (fantasy, horror, science, etc.) and interesting, thought-provoking comments on the writing and the field as a whole.

(*Galaxy/If* and the other science fiction magazines seem to be coming closer to this idea. They seem to be giving more room to science and non-fictional articles, but are still—in the words of whomever wrote the ad for *If* in *Galaxy*—"Pulp Gone First Class." Still closer to pulp than regular magazine.)

This is the type of science fiction magazine I would like to read. It is perhaps a compromise between the Panshins' idea, the pulps, and present-day magazines. And the type of magazine I hope the future will bring.

Alyson L. R. Abramowitz
638 Valmont Place
Elmont, N.Y. 11003

*I must confess—I wrote that ad. And while my normal editorial approach is not* THE SHRIEK!!!, *still, I meant every word of it.*

Dear Editor,

In your July, 1974 issue Jerry Pournelle did an article on the American Association for the Advancement of Science meeting. This article interested me very much and I would like to know if you are planning to do a follow-up article on some of the ideas he talked of.

Also while reading your issue of *Galaxy* I read Dr. Asimov's article. Question, Dear Doctor—are you sure nothing else can or will go wrong?

Teri Weiner
1639 Larkspur Dr.
Mountainside, N.J. 07092

*Jerry tells me that the meeting provided a great deal of grist of his mill indeed. As for Dr. A—well, Dr. A?*

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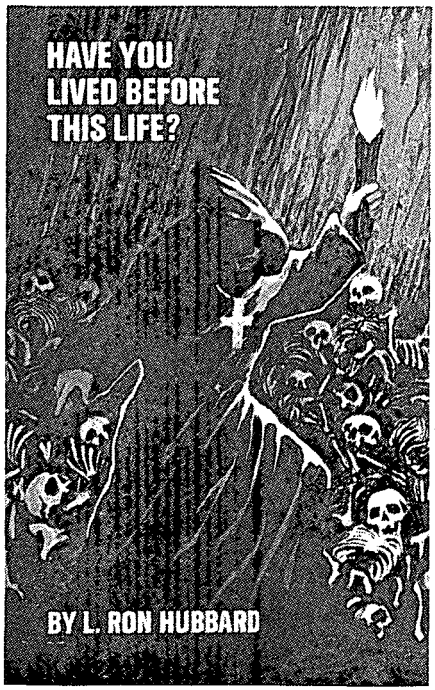


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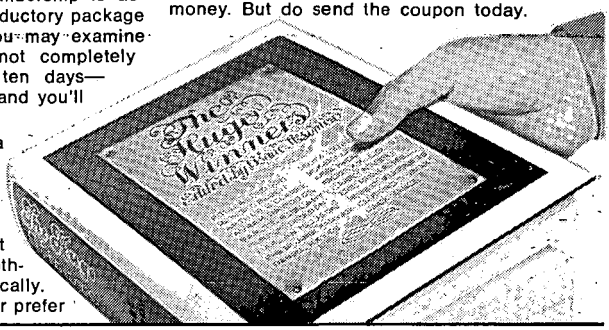


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